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Interpersonal Skills Summary Report

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**United States Army Research Institute
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INTERPERSONAL SKILLS SUMMARY REPORT

EXECUTIVE SUMMARY

Research Requirement:

This research was conducted as part of an ongoing United States Army Research Institute for the Behavioral and Social Sciences (ARI) research project to identify evidence-based guidelines for the relative effectiveness of different training methods for acquiring and transferring cognitive skills involved in complex task domains. The motivating objective is a database of research findings that can potentially inform decision aids for choosing training methods that would be effective for a particular training need. This objective provides a conceptual framework for organizing the research. For a particular task to be trained, a population of individuals to be trained, and training outcome objectives – what training methods will be more likely to produce effective learning and transfer? Primary interest areas with complex cognitive and/or interpersonal components include technology related task domains such as employing new digital and robotic/UV systems, battle command and control, intelligence gathering and analysis, and stability and capacity building operations. The current work sought to expand skill-based training research to the domain of interpersonal skills and update the current state of the science on interpersonal skill training. This report discusses the literature reviews conducted for the broad area of interpersonal skills training, skill specific reviews for six interpersonal skills with applicability to the U.S. Army, and conclusions regarding the state of the science on interpersonal skills training.

Procedure:

Two literature searches were conducted; one systematic search of “interpersonal skills” training research literature for the date range of 2000 through 2012 and a survey of the literature on active listening skill, assertive communication skill, nonverbal communication skill, relationship building skill, negotiation skill, and conflict resolution skill with an unrestricted date range. Three primary means were used to search for relevant literature: 1) electronic database searches, 2) reference list driven searches, and 3) inclusion of relevant sources from a prior unpublished interpersonal skill taxonomy-specific review. The papers were reviewed with focus on interpersonal skill training classifications, training effectiveness findings, and research needs. To initiate exploration of the relationships between training types and specific IPS, skill-specific surveys of the literature were performed for six army-relevant skills: active listening, assertive communication, nonverbal communication, relationship building, conflict resolution, and negotiation skill training.

Findings:

Reviews of the IPS literature resulted in identification and definition of 28 individual interpersonal skills and numerous taxonomies of interpersonal skills. Review of training, assessment, and measurement methods suggested that most training programs are multi-method systems for training and at their core is the general technique of behavioral modeling training

(e.g., instruction, demonstration, role-play/practice, and feedback); however, little is known about the impact of virtual practice, and more generally, how well IPS training transfers to real life situations.

Finally, examining the results of the skill-specific surveys of experimental literature, several skill-specific need areas in addition to exploration of differences in training method effectiveness and far transfer for each skill were revealed. Results indicate a general increase in experimental publications over the past decade in the interpersonal skills examined.

- For active listening skill, no reviews or meta-analyses were identified, but there has been a steady increase in experimental training publications over the past 5 decades. As such, active listening is likely a prime candidate for research synthesis.
- For nonverbal communication, a handful of reviews/meta-analyses were discovered; however, results suggest that it is a hot topic and there is a surge of both encoding and decoding experimental training research to explore in the past two decades.
- Results indicate that there is a fairly large body of experimental research available on training assertive communication. A prototypical model of meta-analysis is available for assertiveness training; however, it was published in 1984 and the survey of assertive communication literature suggests more than 40 candidate studies have been published after 1984.
- No reviews or meta-analyses were found for relationship building. While the literature survey indicates a spike in experimental relationship building research in the past decade, review research into relationship building skill should consider whether the skill category is potentially too high a level skill to focus efforts on.
- For negotiation, two (somewhat recent) reviews and two meta-analyses were identified in the literature survey. In addition, there seems to be a surge in experimental research in the past decade. Results indicate that negotiation training research is also a hot topic, but very little synthesis has been performed with a focus on training effectiveness.
- Lastly, for conflict resolution, one review and no meta-analyses were discovered. Given the surge in experimental attention conflict resolution training has seen over the past decade, it may also be a prime candidate for quantitative and qualitative synthesis of the literature.

Utilization of Findings:

The findings of these interpersonal skills literature reviews provides information for training researchers – what is the current state of the research and where do research gaps exist. The intent of the skill specific literature surveys was not exhaustion of the literature; rather, to be selective and descriptive. The literature surveys can serve as initial orientation to the literature for each interpersonal skill, help refine working definitions and alternative skill labels, form a preliminary understanding of the extant research on each skill, and provide a sampling of the types, volume, and time distribution of the experimental literature available for further detailed review and analysis.

INTERPERSONAL SKILLS SUMMARY REPORT

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INTERPERSONAL SKILLS SUMMARY REPORT

1. Introduction

1.1. Overview of the Report.

As part of a larger funded program of research on training effectiveness by the Army Research Institute, the current work sought to expand ongoing skill-based training research into the domain of interpersonal skills and update the current state of interpersonal skill training.

1.2. Review of Project Goals.

The interpersonal skill literature was reviewed with several objectives. The first review of the interpersonal skill literature presented in the report was performed with the following objectives:

- 1.a Identify and define the breadth of skills falling under the “interpersonal” realm.
- 2.a Identify and synthesize available conceptual organizations, or taxonomies, of interpersonal skills.
- 3.a Review and organize the literature on training interpersonal skills.
- 4.a Review and organize the literature on assessment and measurement of interpersonal skills.

The second set of skill-specific interpersonal skill reviews were performed with the following objectives for each of six interpersonal skills examined (i.e., active listening, nonverbal communication, assertive communication, relationship building, negotiation, and conflict resolution):

- 1.b Continue development of working definitions for the skills reviewed.
- 2.b Summarize relevant background information and areas of application and research.
- 3.b Summarize skill training methods and related application and research.
- 4.b Summarize skill assessment and measurement methods.
- 5.b Summarize relevant research findings for skill training.
- 6.b Survey the literature to describe the available experimental research on skill training.

1.3. Current Motivation.

The current work was motivated by a need to lay the conceptual foundations for the body of knowledge in interpersonal skill training and highlight need areas to be addressed in future research.

1.4. Organizing Framework.

Three training centric emphasis areas were used to focus thinking about the interpersonal skills literature as well as guide data collection: Definition of interpersonal skill, description of methods used to train interpersonal skill, and skill-based assessment methods for evaluating

effectiveness of interpersonal skill training and individual differences. This conceptual framework was intended to capture three basic questions: what are interpersonal skills, how are interpersonal skills trained, and how is interpersonal skill assessed?

The concepts of interpersonal skills themselves integrated a broad body of knowledge, synthesizing approximately 40 sources, but built heavily upon the works of Bowden, Laux, Keenan, and Knapp, 2003; Carpenter and Wisecarver, 2004; and Klein, DeRouin, and Salas, 2006. The conceptualization of training methods included more than 40 sources as well, leveraging the works of Gilmore and Fritsch, 2001; Greene and Burleson, 2003; and Klein, 2009 most prominently. Concepts defining assessment and measurement were synthesized from over 45 sources, but drew most heavily from Bedwell, Fiore, and Salas, 2012; Bowden, Laux, Keenan, and Knapp, 2003; and Greene and Burleson, 2003.

1.5. Organization of the Report.

The remainder of the current report is organized into three primary sections: 1.) A general literature overview of interpersonal skill research since 2000; 2.) Skill-specific surveys of the literature on six interpersonal skills that were selected due to their applicability to Army tasks; and 3.) Conclusions of the reviews and suggestions for future research.

1.5.1. Review of interpersonal skills post 2000.

A review of the literature bounded by a date range of 2000 to 2012 was conducted to summarize and synthesize the current state of knowledge on interpersonal skills and interpersonal training in general. This review brought together approximately 65 sources from the past 12 years of interpersonal skills research. The work reviewed is summarized, frameworks for understanding IPS training are offered, and summaries of research findings are presented. Although bound with a date range of 2000 to 2012 for the target literature sample, publications prior to 2000 were included where/when appropriate background and historical context was relevant.

1.5.2. Skill-specific reviews.

In an attempt to begin filling an interpersonal skill-specific knowledge gap regarding the effectiveness of various training methods, the literature pertaining to six interpersonal skills was surveyed and reviewed. Skill definition, description of training and assessment methods observed, summaries of skill-based research findings on training effectiveness, and availability of experimental data for meta-analysis is provided for each of the six skills reviewed.

1.5.3. Conclusions and suggestions for future research.

Outcomes of the series of literature reviews presented herein are brought together and summarized to provide an update and synthesis to the state of interpersonal skill training as well as facilitate defining baseline from which to move forward in the interpersonal skill training

research domain. Current interpersonal skill knowledge is reviewed, existing gaps are identified, and future research proposed.

2. Interpersonal Skill Overview

2.1. Method

2.1.1. Approach.

A review of the interpersonal skills (IPS) research published post 2000 was performed. Among numerous works, the key papers included the interpersonal skills (IPS) research performed by Carpenter and Wisecarver (2004, 2005, 2006) and the work of Klein and colleagues (2006, 2009) which provided the latest state of the science on IPS. The objective was to provide a training centric conceptual framework for tasks where effective performance requires general IPS proficiency, or specific interpersonal skill proficiency, and to support the identification of empirical and best practice based training guidelines. Following the general guidelines for integrative reviews (Callahan, 2010; Cooper, 1988; Cooper, 1998; Jackson, 1980; Torraco, 2005; and Yorks, 2008), this report addresses training methods for Interpersonal Skills (IPS) and their effectiveness through review of the expanding literature base. In accordance with the integrative review approach, an explicit review methodology is presented to facilitate replicability and transparency.

2.1.2. Literature searches.

Three primary means were used to search for relevant literature: 1) electronic database searches, 2) reference list driven searches, and 3) inclusion of relevant sources from a prior unpublished interpersonal skill taxonomy-specific review. For the electronic database searches, the databases of Academic Search Premier, Business Source Premier, ERIC, PsycARTICLES, PsycINFO, and the Defense Technical Information Center (DTIC) were searched. Searches of the first five databases used the keyword "Interpersonal Skills" and delimited results to the keyword in the source title using a date range of 2000-2012. Due to search limitations in DTIC, the keyword "Interpersonal" was used and delimited only to the source title with no date restrictions. Filtering by a publication date lower limit of 2000 was performed manually. The references from both these and other sources were also used to guide source specific collection. Any relevant sources found in the reference sections from the same 2000-2012 date range were retrieved for further review. Even though primary electronic database searches were delimited to the 2000-2012 date range, in some instances additional background and historical information prior to the year 2000 was included where and when the additional information provided supplementary context (e.g., specific interpersonal skill definitions).

2.1.3. Data collection.

To facilitate the collection of relevant data from literature sources, a summary template (Appendix A) was used to capture information. The template included the following fields:

- Full APA Reference of Study

- Interpersonal Definitions
- What are the components/elements of IPS?
- How are IPS trained?
- How are IPS assessed?
 - Where assessment was defined as the process of collecting data (relating to IPS) to describe or better understand an issue of IPS, typically a tool, rubric, or testing situation (i.e., standardized testing, checklist, etc).
- How are IPS measured?
 - Where measurement was defined as the process of determining variable attributes of IPS data with standard units/scale and standard instrumentation, typically quantifying.
- How are IPS evaluated? *
 - Where evaluation was defined as the comparison of data to a standard for the purpose of judging worth or quality; that is, some process that is designed to provide information that will help make a judgment about a situation.
- Empirical data provided?
- Other Information
- Key papers cited to follow up on

* The “evaluation” field did not prove useful for summarizing the IPS literature. The literature reviewed rarely took an evaluative position towards the training, opposed to an experimental or quasi-experimental effectiveness position. Consequently, evaluation is not included in the review syntheses.

2.1.4. Concept matrices.

The data collected in the summary templates was organized into an overall concept matrix and individual concept matrix for skill components. The general format for each concept matrix is shown in Table 1. In the left column of the spreadsheet the citation information for each source reviewed was captured. Along the top row of each matrix, all relevant topical concepts were listed. Within each cell of a matrix, an “x” was marked to indicate if the specific source listed in a given row contributed information about a given topic listed in the column heading.

Table 1. General concept matrix format

Citation	Concept #1	Concept #2	Concept #3	Concept #N
Reference #1	x		x	x
Reference #2		x	x	x
Reference #3	x	x	x	
Reference #n	x	x		x

2.2. Search Results

2.2.1. Keyword search results.

Searches (w/ keyword in the title and delimited to 2000-2012) of Academic Search Premier, Business Source Premier, ERIC, PsycARTICLES, and PsycINFO yielded a total of 114 hits (~24k w/ keyword in all text, ~15k w/ keyword in all text and delimited to 2000-2012), from which 77 sources were selected for detailed review and 42 were included. DTIC searches yielded 152 hits (primary from 1960's & 1970's), of which 9 were included (Table 2). Reference list based searches yielded an additional 8 relevant sources. A prior IPS taxonomy specific search contributed 6 further sources. Altogether, with the inclusion of reference list based searches and prior IPS taxonomy-specific searches, a total of 65 sources were included in the review.

Table 2. Results of literature searches for interpersonal skill papers.

EBSCO			DTIC		
Search String: "interpersonal skills" (title)			Search String: "interpersonal"		
Delimitations: Published date: 2000 - 2012			Delimitations: Published date: 2000 - 2012		
# of Search Hits	# of Abstracts Reviewed	# of Manuscripts Included in IPS Review	# of Search Hits	# of Abstracts Reviewed	# of Manuscripts Included in IPS Review
114	77	42	152	152	9

2.2.2. Overall concept matrix.

A concept matrix (Appendix B) mapping all sources to the data collection template (Appendix A) was constructed to organize the information collected across all sources.

2.3. Findings

2.3.1. Interpersonal skill taxonomies.

2.3.1.1. Review of available interpersonal skill taxonomies.

Forty-one papers were included and reviewed in the review of available IPS taxonomies. Quickly into the review, the team discovered that while there was a great deal of conceptual overlap, no two taxonomies 'fit' precisely. As a consequence, compiling the taxonomies side by side revealed similar categories with different names, hierarchical concepts, varying breadths of primary and sub-skills, and several sets of skills included in some taxonomies but not in others. As a means to conceptually organize the multitude of skills and skill sets, working definitions of the full set of skills were formed across the full set of taxonomies and used as decision criterion for conceptual organization in an IPS taxonomy concept matrix (Appendix C). Each skill discussed within a specific category was matched to its definition and marked in the concept matrix in Appendix C.

The process of conceptual organization presented herein was a subjective method meant only as a way to see a common structure across the numerous taxonomies reviewed. Readers are referred to the work of Carpenter and Wisecarver (2004) for the only research validated taxonomy reviewed in the current research. Carpenter and Wisecarver's (2004) work built off

from the job performance models of Campbell, McCloy, Oppler, and Sager, 1993; Borman and Motowildo, 1997; and Pulakos, Arad, Donovan, and Plamondon, 2000. For their taxonomy, Carpenter and Wisecarver first reviewed the literature on IPS taxonomies and synthesized an initial taxonomy of interpersonal performance. They next performed content analysis on critical incidents of interpersonal performance collected from U.S. Army Special Forces Soldiers to initially validate the model. In a follow up study with a broad sample of U.S. Army Soldiers, the taxonomy was validated using importance ratings on taxonomy behaviors and confirmatory factor analysis of the survey items.

2.3.1.2. Component skill concept matrix.

A concept matrix mapping all sources to the specific interpersonal skills discussed in the source is presented in Appendix C.

2.3.1.3. Taxonomy synthesis.

Conceptual organization of the breadth of taxonomies resulted in the identification of 28 individual interpersonal skills organized into 4 higher level categories. These skills are shown below.

Interpersonal Communication Skills

- Active listening
- Oral communication
- Written communication
- Assertive communication
- Nonverbal communication
- Informing
- Information gathering

Relationship Building Skills

- Team cooperation and coordination
- Courtesy
- Amicability
- Trust
- Dependability
- Intercultural/Interpersonal sensitivity (empathy)
- Service orientation
- Negotiation
- Conflict Resolution

Peer Leadership Skills

- Acts as a role model
- Helping others
- Task leadership
- Energizing others
- Rewarding others
- Controlling
- Formal staffing
- Informal staffing

Social/Behavioral Agility Skills

- Social perceptiveness
- Self-presentation
- Social influence
- Adaptability/Flexibility

2.3.1.3.1. Interpersonal communication skills.

Interpersonal communication skills are the set of abilities needed in the interpersonal exchange of information; a two-way exchange requiring skill in both expressing and assimilating information. They not only involve listening, speaking, writing, and sending/receiving nonverbal signals, but doing so empathetically, attentively, responsively, directly, and confidently during the social interaction.

Active listening. Active listening can be defined as listening attentively, responsively, and non-judgmentally in a two-way exchange for the purpose of meaning-making and understanding; that is, paying attention to both what is being said as well as what is being done (i.e., nonverbal behaviors) and responding or reciprocating appropriately to questions, ambiguities, and nonverbal cues (Klein et al., 2006; Bowden et al., 2003, Duffy, Gordon, Whelan, Cole-Kelly, & Frankel, 2004; Montgomery, 2007; Weger et al., 2010; Tyler, 2011).

Oral communication. Oral communication is the ability to express verbal messages and ideas clearly and precisely, in a manner appropriate to the audience, so that information can be accurately and easily understood (Bowden et al., 2003; Huffcutt, Conway, Roth, & Stone, 2001; Klein et al., 2006). Examples of oral communication skill include “enunciating; expressing yourself clearly; communicating emotion; interpersonal communication” (Klein et al., 2006, p. 85), “clearness, modulation of voice, avoidance of monotones, and calmness are recommended for development when speaking” (Lee & Powell, 2006, p. 319), and “questioning, summarizing information and explanation” (O’Keefe, 2001, p. 531).

Written communication. Similar to oral communication, written communication carries many of the same attributes, e.g., expressing messages clearly, concisely, and appropriately for reader/receiver understanding; however, written communication skill additionally involves an understanding of the limitations of text or printed communication and requires a careful phrasing

of messages so intent and meaning can be clearly understood by the reader (Bowden et al., 2003; Klein et al., 2006).

Assertive communication. Assertive communication skill can be defined as the ability, willingness, and readiness to appropriately and succinctly express emotions, preferences, opinions, concerns, or needs positively, directly, and with self-confidence without being offensive or hostile during the social interaction towards the other person (Fye & Staton, 1981; Hoffman, 1999; Jones, 2009; Klein et al., 2006; Shatz, 1984).

Nonverbal communication. Nonverbal communication (NVC) can be defined as the encoding and decoding of body language, postures, gestures, facial expressions, proximity, and other nonverbal behaviors/signals to enhance, reinforce, modify, or replace the verbal messages of an interpersonal communication (Bowden et al., 2003; Dyche, 2007; Greene & Burleson, 2003; Klein et al., 2006; Klinzing & Gerada-Aloisio, 2004a; O'Keefe, 2001; Rosenthal, Wadsworth, Russell, Mathew, Elfenbein, Sanchez-Burks, & Ruark, 2009).

Informing. Informing is an intent-based ability that involves utilizing interpersonal communication skills for the transmission, or conveying, of the critical information needed by others to gauge expectations and do their work. Key to only transmitting critical information is selectively refraining from sharing information that is unnecessary for the receiver (Carpenter & Wisecarver, 2004; Chant, Jenkinson, Randle, & Russell, 2002; Elliott, Erickson, Fowler, Gieseeking, & Weiss, 2006; Montgomery, 2007; Tews & Tracey, 2008).

Information gathering. Much the same as informing, information gathering represents the opposite dimension. As defined by Carpenter & Wisecarver (2004), information gathering is the accumulation of "information that one's self, others, or an organization needs and disregarding unnecessary/irrelevant information" (p. 17).

2.3.1.3.2. Relationship building skills.

Relationship building skills are the set of abilities needed to develop and maintain bonds with others, relate to and support others, foster ongoing relationships, and build strong beneficial alliances (Bowden et al., 2003; Carpenter & Wisecarver, 2004; Klein et al., 2006; Phelps, 2009). These skills are imperative for team performance. Beyond the forming of interpersonal associations, relationship building skills also involve the management and resolution of conflicts, and getting to get what you want from others (Fisher, Ury, & Patton, 1991; Greene, 2010; Montgomery, 2007).

Team cooperation and coordination. Team cooperation and coordination is a broadly defined sub-skill of relationship building. As one might expect, team cooperation and coordination is the ability to organize and work interdependently to solve problems and achieve goals that could not be achieved by working in isolation (Bowden et al., 2003; Carpenter & Wisecarver, 2004; Tsai, Chen, & Chin, 2010). However, the ability also carries a team dynamic involving willingness to identify, affiliate, and find common ground (Bowden et al., 2003; Sen, 2008). That is, the ability to "promote healthy group dynamics among the [group] members; have character, integrity, and

the ability to uphold their beliefs; and strive to achieve the goals and objectives of the organization or institution of which they are a part” (Green, 2010, p. 3).

Courtesy. Courtesy has a *do unto others* undertone within the context of the interactions had with those whom relationships are held. The skill involves being considerate, cooperative, helpful, and supportive as a team member (Bowden et al., 2003; Carpenter & Wisecarver, 2004). Furthermore, courtesy is fundamentally about “respect, including treating others as one would want to be treated” (Duffy, et al., 2004, p. 498).

Amicability. Amicability concerns how friendly and sociable one is towards group members. “The degree of pleasantness versus unpleasantness exhibited in interpersonal relations. Exhibits goodwill towards others and an absence of antagonism. Is tactful and helpful rather than defensive, touchy, and generally contrary” (Bowden et al., 2003, p. 7).

Trust. Trust is a two-way interaction. Having trust for others involves “faith or belief in the integrity or reliability of another person or thing; willingness of a party to be vulnerable to the actions of another party based on the expectation that certain actions important to the trust or will be performed” (Klein et al., 2006, p. 86). Credibility plays a large part in being trusted; that is, being ethical, trustworthy, authentic, sincere, honest, open, and free of hidden motives (Montgomery, 2007; Phelps, 2009).

Dependability. Being trusted plays a part in dependability; that is, the peer group believes the team member is trustworthy and fair (Montgomery, 2007). However, one’s dependability further involves the peer group’s perception that the team member will follow through, that the individual “is disciplined, well organized, planful, and respectful of laws and regulations” (Bowden et al., 2003, p. 7).

Intercultural/Interpersonal sensitivity (empathy). Intercultural and interpersonal sensitivity in a large part has to do with empathy for others. It involves “appreciating individual differences among people” (Klein et al., 2006, p. 86), being “sensitive to others’ priorities, interests, and values” (Bowden et al., 2003, p. 7), and “skill at adopting the perspective of the counterpart” (Zbylut, Metcalf, McGowan, Beemer, Brunner, & Vowels, 2009, p. 102). Intercultural and interpersonal sensitivity involves respecting diversity, understanding others’ feelings, and having a caring intent, as well as, a genuine curiosity, acceptance, and interest in the other’s ideas, values, and concerns (Avkiran, 2000; Doo, 2005; Duffy et al., 2004; Dyche, 2007; O’Keefe, 2001).

Service orientation. A primary element of customer relations (Doo, 2005), service orientation entails the “inclination to provide service, to be courteous and helpful in dealing with customers, clients, and associates” (Klein et al., 2006, p. 86).

Negotiation. As a process, “negotiating refers to the use of bargaining to resolve conflict or the bringing out of a solution through discussion and compromise. It can include resolving disputes with unions, customers, suppliers, consultants, peers, supervisors, or subordinates” (Carpenter & Wisecarver, 2004, p. 8). As an ability, negotiation skills “refer to a subset of

knowledge and behaviors that influence bargaining performance...these skills are effective when they achieve negotiation goals or when they grow out of an understanding of the process that surpasses minimal performance” (Greene & Burleson, 2003, p. 801).

Conflict Resolution. Conflict resolution can be defined as a process in which interpersonal communication is used to allow two conflicted parties to reach an amicable and satisfactory point of agreement (Omoluabi, 2001). The conflict resolution process involves bargaining and compromise to manage incompatibilities and identify mutually acceptable solutions (Greene & Burleson, 2003). Successful conflict resolution involves “Advocating one's position with an open mind, not taking personally other members' disagreements, putting oneself in the other's shoes, following rational argument and avoiding premature evaluation, and trying to synthesize the best ideas from all viewpoints and perspectives” (Klein et al., 2006, p. 86). This ability to support different perspectives and address disagreements constructively without harmful conflict has the benefit of preserving good relationships and enhancing trust (Bowden et al., 2003).

2.3.1.3.3. Peer leadership skills.

Peer leaderships skills are the set of abilities necessary not only to be part of a group, but to lead it. The skill set includes the propensity to coach, teach, counsel, motivate, and empower group members; to readily interact with one's team, earning trust and respect; to actively contribute to problem solving and decision making; and to be sought out by peers for expertise and counsel (Green, 2010, p. 27).

Acts as a role model. Acting a role model includes more than simply modeling desired behaviors. Being a role model also involves presenting an image of ethical conduct, self-confidence, positive attitude, and professionalism that inspires subordinates (Bowden et al., 2003; Carpenter & Wisecarver, 2004; Phelps, 2009). “Good leaders set an example for their followers by, among other things, personally observing common courtesies, being polite, listening to other points of view, and behaving in an honest and ethical manner” (Green, 2010, p. 3).

Helping others. Helping others is both the ability and willingness to coach, assist, guide, tutor, counsel, or otherwise promote the growth of the critical aspects of group members' personal development that result in improved performance (Avkiran, 2000; Bowden et al., 2003; Carpenter & Wisecarver, 2004; Doo, 2006). In this sense, as a peer leadership skill, helping others is mentoring and encouraging peers to achieve more than they thought they were capable of achieving” (Montgomery, 2007).

Task leadership. Task leadership is the ability to direct and motivate others to stay on task, goal-directed, and focused on the team mission for purpose of ensuring mission completion (Bowden et al., 2003; Huffcutt et al., 2001; Elliott et al., 2006).

Energizing others. Energizing others is the ability to “energizing the behavior of others using rational persuasion, inspirational appeals, consultation, ingratiation, personal appeals, or exchange” (Carpenter & Wisecarver, 2004, p. 16). It includes creating enthusiasm to work hard

and put forth a strong effort; empowering the team towards a common goal; and motivating and inspiring group members to achieve a shared vision (Avkiran, 2000; Green, 2010; Tews & Tracey, 2008). Energizing others requires leading with optimism. “Taking the positive viewpoint has much more leverage for leaders. Optimism cascades down to those whom you are leading, enabling them to stay motivated and keep reaching for better outcomes” (Wheeler, 2005, p. 44).

Rewarding others. Rewarding others is how peer leaders express appreciation, provide tangible rewards, and offer the incentives desired by peers for effective performance. Providing praise and recognition is means to energizing group members to achieve, and overcome barriers to, high levels of performance (Carpenter & Wisecarver, 2004; Green, 2010; Tews & Tracey, 2008).

Controlling. As a peer leader, controlling is related to task leadership, but more specifically involves the ability to exert an influence over cognitive control and regulate the activities of team members for the purpose of maintaining discipline, enforcing rules, and correcting behavior to better align with team goals (Carpenter & Wisecarver, 2004; Doo, 2005).

Formal staffing. Some team roles are well defined and organizational protocols exist for how to staff those team roles, i.e., recruiting, hiring, promotion, etc. Formal staffing is the ability to, or activity of, matching individuals to role demands using established protocols for doing so based on the needs of the role and the knowledge, skills, and abilities of the individual (Carpenter & Wisecarver, 2004).

Informal staffing. Other team roles and activities are not well defined and lack explicit staffing protocols, but remain critical to team task performance. For these informal staffing situations (e.g., forming ad hoc teams, delegating tasks to the appropriate team member(s), etc., peer leaders still need to be able to choose the right team member for the right task. Informal staffing is the ability to, or activity of, matching individuals to role demands based on the needs of the role and the knowledge, skills, and abilities of the individual when no official process for doing so exists (Carpenter & Wisecarver, 2004).

2.3.1.3.4. Social/Behavioral agility skills.

Social and behavioral agility skills are the set of interrelated abilities needed in order to monitor and interpret both one’s own and other’s behaviors and flexibly adapt presentation of self to others during social interactions for the purpose of social influence and control over the interaction (Bowden et al., 2003; Carpenter & Wisecarver, 2004; Huffcutt et al., 2001; Klein et al., 2006; Phelps, 2009; Sen, 2008).

Social perceptiveness. Social perceptiveness is both an inward and outward ability. Socially perceptive individuals have self-knowledge of their own emotions, nonverbal behaviors, opinions and thinking, but can also discriminate between them. In addition, socially perceptive individuals can also keenly observe and comprehend the same about others during social

interactions and use the information to influence the interaction (Bowden et al., 2003; Phelps, 2009; Sen, 2008; Wheeler, 2005; Zbylut et al., 2009).

Self-presentation. Self-presentation is the ability to use knowledge of social situations to control, redirect, and management one's own impulses, emotions, and expressions for the purpose of influencing others' impressions of self during a social interaction (Doo, 2005; Klein et al., 2006; Sen, 2008; Wheeler, 2005; Zbylut et al., 2009).

Social influence. Social influence is the ability to not only appeal to and manage the perceptions of others, but doing so specifically with the intent of influencing and guiding the adoption of specific behaviors, beliefs, opinions, or attitudes by others within the social interaction for the purpose of getting buy in and achieving one's own goals (Carpenter & Wisecarver, 2004; Green, 2010; Huffcutt et al., 2001; Klein et al., 2006; Montgomery, 2007; Phelps, 2009).

Adaptability/Flexibility. The adaptability and flexibility of an individual is skill in relational versatility within social interactions. It involves the ability to respond and react to rapidly to changing social situations, adjusting one's behavior to fit the dynamic social environment (Bowden et al., 2003; Carpenter & Wisecarver, 2004; Dyche, 2007; O'Keefe, 2001).

2.3.2. Interpersonal skill training.

Forty-two papers were included and reviewed in the discussion of interpersonal training that follows. First the importance of training interpersonal skill is addressed proceeded by a review of interpersonal skill training classifications, a summary of training effectiveness findings, and a description of research needs.

2.3.2.1. Why train interpersonal skill?

Klein notes from his review of the literature that interpersonal skills "are not to be viewed as simple trait-based orientations, but instead as behaviorally-based competencies, expressed independently of personality and capable of improvement through training" (Klein, 2009, p. 32). However, IPS training is not justified simply because consensus suggests that IPS can be trained; rather, training of IPS has real world benefits. Generally speaking, training of IPS is done with the goal of improving people's lives.

The essential rationale behind virtually all versions of social skills training is to improve the quality of life and well-being of the trainee. The mechanism by which this improvement is attempted is through enhanced social relations... The "theory," if one can call it that, behind social skills training is to teach the trainee those ways of interacting that will be pleasing and attractive to others (to enhance the affiliations with them) and to interact in ways that are effective (to enhance the attainment of instrumental goals through interacting with others). It is generally assumed that enhancement of these skills will ultimately lead to greater personal happiness and success, as well as to more positive and less negative affect in those who interact with the trainee... Increased satisfaction and effectiveness in relationships with other people would appear to benefit virtually anyone. Greene & Bursleson, 2003, p. 137

Despite the general potential benefit of IPS training, clustering of the literature topically suggests that three broad domains have been the focus of benefits received from IPS training. These three domains are:

- The *Organizational/Professional domain* to include management, teaching, business, and working professionals in general (Bedwell et al., 2012; Doo, 2005, 2006; Green, 2010; Kelley & Bridges, 2005; Lee & Powell, 2006; Maellaro, 2009; Messmer, 2001; O'Brien & Murphy, 2003; Pellack, 2003; Sen, 2008; Simmons, 2000; Tsai et al., 2010; Wheeler, 2005; Young & Murphy, 2003);
- The *Medical and Therapeutic domains* specific to the efficacy of the Doctor – Patient relationship: (Duffy et al., 2004; Dyche, 2007; Gabor, Hajime, & Mamoru, 2006; Greco, Brownlea, & McGovern, 2001; O'Keefe, 2001; O'Sullivan, Chao, Russell, Levine, & Fabiny, 2008; Schottler, 2005; Yudkowsky, Alseidi, & Cintron, 2004; Yudkowsky, 2006); and of most relevance to the current context,
- The *Military domain* including leadership, team orientation, and multicultural interactions among other areas (Bowden, Keenan, Knapp, & Heffner, 2004; Carpenter & Wisecarver, 2004, 2006; Carpenter, Wisecarver, Deagle, & Mendini, 2005; Elliott et al., 2006; Montgomery, 2007; Phelps, 2009; Zbylut & Ward, 2005).

2.3.2.2. Review of available interpersonal skill training classifications.

In an attempt to provide a common language with which to discuss the variety of IPS training “method” literature, the publications spanning 2000-2012 were also reviewed for IPS training classifications. This review of the literature on IPS training revealed some consistency in the overlap of classification types of IPS training, yet, somewhat of a largely overlooked area on IPS training design (Gilmore & Fritsch, 2001). Synthesis of this body of literature resulted in a positioning of training “methods” along two dimensions of training: training delivery methods and instructional design components (Table 4).

As proposed, a *training method* typically consists of a singular form of delivery and multiple training design elements; however, an entire *training program* may consist of several training methods across course segments. This hierarchical concept of training program and training methods within embedded segments is reinforced in Greene and Burleson where they state that “the more effective social skills training programs use a multistage approach to training that incorporates different steps or “modules” in the training program” (2003, p. 145) and use a multitude of methods of increasing difficulty. The program-methods relationship is also called attention to in Gilmore and Fritsch’s discussion of a conditions-based approach to training:

A variety of instructional methods can be used in training courses, and the methods selected usually depend on both the situation at hand and the desired outcome of the training... if you want to achieve the successful performance of some skill, then you should design instruction using a specific method or combination of methods (such as modeling and practice with feedback). Gilmore & Fritsch, 2001, p. 31

To further elaborate the proposed positioning of training methods, both IPS training delivery methods and IPS instructional design elements are discussed individually below. Then an example is given comparing two training classification schemes and positioning the training

methods described in each along the two proposed training dimensions in order to demonstrate commonalities and differences. Lastly, example training methods are explored, findings regarding their effectiveness discussed, and future research needs addressed.

2.3.2.2.1. IPS training delivery methods.

Gilmore and Fritsch (2001, p. 30) report (citing Industry Report, 2000) that “the five most popular delivery methods for employer sponsored interpersonal skills training” were:

- Live classroom delivery – collocated, face-to-face delivery
- Workbooks and manuals
- Videotapes
- Public seminars
- Computer-based delivery - internet, company intranet, CD-ROM, videodisc, or other form of computer-based media.

Klein (Klein et al., 2006; Klein, 2009) categorized training methods targeting the development of communication and relationship-building IPS as either *formal* or *informal*. Informal methods “include motivating and goal setting, coaching and mentoring, and feedback” (Klein, 2009, pp. 32-33). Formal methods “include behavioral modeling training (BMT) and other strategies which may incorporate information-, demonstration-, and practice-based methods” (Klein, 2009, p. 33). It was cautioned that the distinction between formal and informal is not always clear, with informal methods such as coaching and feedback also often included in formal training programs (e.g., Tews and Tracey, 2008); however, generally speaking informal delivery methods can be considered including one-to-one interactions (e.g., on the job) or individual study outside of a formal course or training environment. Given this “hazy” (Klein, 2009, p. 33) distinction, the following serves example of formal and informal training delivery methods.

Formal training delivery methods:

- Classroom/workshop – a face-to-face, co-located delivery
- Facilitated group discussion – “two-way interaction involving interchanges between teacher and learner. This method also captures additional interactions occurring among and between learners... begins with a question or statement from either the teacher or the learner. The resulting response and discussion may involve further two-way interaction between teacher and learner(s), or further two-way interaction between learners” (Gilmore & Fritsch, 2001, p. 34).
- Computer/web based – Delivery through computer-based media: internet, company intranet, CD-ROM, videodisc, or other form of computer-based media.
- Intelligent tutoring
- Computer simulation/game
- Videotape (only)
- Process Interventions (direct assistance – coaching, etc)

- Hybrid

Informal training delivery methods:

- Reading (only) - “Books, self-instructional booklets, Web texts, programmed instruction, Learning stations” (Gilmore & Fritsch, 2001, p. 32).
- Self-taught / experiential – Self directed “in vivo practice of targeted behaviors” (Greene & Burleson, 2003, p. 143).
- One-on-one mentoring – delivery of skill teaching and counseling in an occupational-like setting, e.g., on-the-job training from a respected, more experienced person.
- Using feedback from subordinates/clients, etc.

2.3.2.2.2. *IPS Instructional design elements.*

Gilmore and Fritsch (2001, pp. 34-35) also define 10 instructional elements in their study of classroom versus online delivery using a modified version of Molenda’s Typology of Instructional Methods (2001). Here, they add two more, facilitated discussion and pre- and post-test:

- Presentation – Examples: “lecture, demonstration, videos, broadcast radio or TV, Web video or audio clips” (Gilmore & Fritsch, 2001, p. 32).
- Tutorial – Examples: “mentoring, peer tutoring, Web chats, branching programmed instruction” (Gilmore & Fritsch, 2001, p. 32).
- Drill – Examples: “Athletic coaching, military drill, music lesson, math problems, embedded multiple choice questions” (Gilmore & Fritsch, 2001, p. 32).
- Reading – Examples: “Books, self-instructional booklets, Web texts, programmed instruction, Learning stations” (Gilmore & Fritsch, 2001, p. 32).
- Reflection – Examples: “Visualization, Thinking, Metacognitive tactics, reflection papers” (Gilmore & Fritsch, 2001, p. 32).
- Discussion – Examples: “Small-group dynamics, T-group, buzz group, Seminar, Web conferencing” (Gilmore & Fritsch, 2001, p. 32).
- Game – Examples: “Role-playing games, Computer games, Social simulation games (Gilmore & Fritsch, 2001, p. 32).
- Laboratory – Examples: “Problem-based learning, Social simulation, Science lab, Case study, Field studies, Group projects, Drama rehearsal” (Gilmore & Fritsch, 2001, p. 32).
- Facilitated discussion – “two-way interaction involving interchanges between teacher and learner. This method also captures additional interactions occurring among and between learners... begins with a question or statement from either the teacher or the learner. The resulting response and discussion may involve further two-way interaction between teacher and learner(s), or further two-way interaction between learners” (Gilmore & Fritsch, 2001, p. 34).
- Pre and posttest – Although typically viewed as a means of assessment, this method “may be legitimately considered an instructional method, particularly if the assessment

functions as “practice with feedback,” which is a fundamental instructional strategy” (Gilmore & Fritsch, 2001, p. 35).

Building upon Gilmore and Fritsch’s work (2001) in the current review, the following serves example of several training design elements used in the delivery of training methods, but is by no means intended to be exhaustive of all possible elements:

- Lecture – Presenting instruction
- Reading/workbooks
- Reflection activities - questions to consider
- Small group discussions
- Social simulation skills practice exercise -live (e.g., role playing)
- Simulation IP skills practice exercise –computer simulation-based
- Skills practice with feedback
- Learner control (computer-based)
- Practice drills – (e.g. situational judgment examples with questions)
- Interaction with other learners (synchronous or asynchronous)
- Presentation of cases plus group discussion
- Presentation of cases plus group discussion and design of interventions
- Post training transfer support (e.g., coaching, upward feedback)

2.3.2.2.3. *Training methods example.*

While the breadth of the literature was reviewed, two cumulative sources are highlighted (Greene & Burleson, 2003; Klein, 2009) in the following examples aimed at positioning IPS training methods along two training dimensions: training delivery method and training design element. The two training method schemes are shown together in Table 3. In the discussion and contrasts that follow, the goal is to reduce confusion over IPS training method labels by illuminating the important features of the instructional content. To aid in comprehension of the two dimensional representation, one training scheme is deconstructed into its training methods and design elements and shown across the two dimensions in Table 4.

Table 3. Example training method schemes from the literature

Greene & Burleson, 2003	Klein, 2009
Direct instruction and coaching	Lecture
Modeling	Lecture and discussion
Role playing	Process interventions
Homework assignments	Behavioral modeling training
Follow-up/practice	

Direct Instruction and Coaching-Greene & Burleson 2003. The *Handbook of Communication and Social Interaction Skills* (Greene & Burleson, 2003, pp. 140-145) lists five

methods of training IPS: Direct instruction and coaching, Modeling, Role playing, Homework assignments, and Follow-up/Practice. Direct instruction and coaching is a training method described as a verbal explanation of IPS “achieved in a lecture format, small group discussion, more casual one-on-one conversation, and even through written manuals” (Greene & Burleson, 2003, p. 140).

An example of direct instruction or coaching might involve explaining the functions and use of eye contact. The social skills trainer would start by stating that eye contact is one of the important ways that we show interest and attention to our conversational partners. This could be followed by information about what others infer from someone who makes too much or too little eye contact. Afterward, the trainer might talk about situations in which it is important to make eye contact, such as when making a request, when listening to a conversational partner, and so on. Greene & Burleson, 2003, p. 140

Here, Greene and Burleson describe a training method that can be delivered with either formal delivery methods such as the classroom and facilitated group discussion or informal methods such as self-readings and one-on-one mentoring. Further inferred from the example given are training design elements including lecture in the initial segments, followed by reflection, and presentation of cases plus group discussion in later segments. These hypothetical direct instruction and coaching training methods are shown in Table 4 with the delivery methods and instructional design elements highlighted.

Table 4. Example direct instruction training methods

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:	x		x	x							x		
	Facilitated group discussion w/:	x		x	x							x		
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:		x	x	x							x		
	Self-taught – experiential w/:													
	One-on-one mentoring w/:	x		x								x		
	Using feedback from subordinates/clients, etc w/:													

Modeling-Greene & Burleson 2003. Greene and Burleson's modeling is a training method delivered either on videotape or with live demonstration used to "demonstrate the effective, and sometimes ineffective, use of certain behaviors. People who have difficulty saying and doing certain things when in the presence of others are sometimes more comfortable doing so after seeing someone else do it first" (Greene & Burleson, 2003, p. 141). Two examples are:

- Example 1 – Watching videotaped presentations of actors first modeling a deficiency in a particular interpersonal skill, followed by discussion on how the actor might have behaved more appropriately. Then, after discussion, more videotape of an actor is viewed but now with the actor behaving in a more skillful manner (Greene & Burleson, 2003 See Table D.1 in Appendix D.
- Example 2 – The trainer demonstrating various interpersonal problem behaviors with the goal of identifying interpersonal problems and generating behavioral solutions. After the behavioral demonstration by the trainer, the trainees then model the various behaviors to each other (Greene & Burleson, 2003). See Table D.2 in Appendix D.

Here, Greene and Burleson describe a modeling training method that can be delivered with the formal delivery method of videotape including cases plus group discussion and design of interventions in example #1. In example #2, a modeling training method is described that is delivered with the formal method of classroom delivery with cases plus group discussion and design of interventions in the initial segment, followed by live simulation of the modeled behaviors in the second segment.

Role Playing-Greene & Burleson 2003. Greene and Burleson's role playing is defined as the active production and practice of interpersonal behaviors by trainees in a controlled setting with observation, feedback, and reinforcement. The active participation by trainees stands in contrast to modeling as generally more of a passive method requiring only the interpretation of information presented by the trainer.

Typically, role plays are set up with a description of a fictitious scene that resembles the problematic situation in which new behaviors are desired... Of course, the use of role-playing in social skills training goes beyond the simple production and practice of behavior on the part of the trainee. It is vital that the trainer provide a detailed critique and plenty of positive reinforcement for appropriate and desired behaviors... [with the trainee rerunning the scene several times in order] ...to perform the desired response adequately. Greene & Burleson, 2003, pp. 142-143

Here, Greene and Burleson describe a role play training method delivered formally, likely in a group or classroom setting, that may or may not involve presentation upfront, but definitely involves repeated live simulation of the modeled behaviors with feedback and/or post training support in the later segments. See Table D.3 in Appendix D.

Homework Assignments-Greene & Burleson 2003. The homework assignments described by Greene and Burleson (2003) may easily be mistaken on the surface as a workbook-based training method; however, exploration of their definition reveals a real world experiential method delivered outside of a formal delivery environment after formal training has already been provided. Here, they describe homework assignments as “in vivo practice of targeted behaviors... [that] have perhaps the highest potential for payoff in that the client puts into actual practice the skills learned in the training setting” (Greene & Burleson, 2003, p. 143).

Homework assignments require the highest level of existing skill on the part of the trainee... Typically, homework assignments are graduated by difficulty, and “easier” tasks are assigned first... homework assignments often benefit from a “debriefing” during which the client and trainer discuss and critique the performances. Here again, the use of praise and positive reinforcement is often used to enhance the effectiveness of the learning process. Greene & Burleson, 2003, pp. 143-144

The homework assignment described by Greene and Burleson (2003) is an informal delivery method using self taught experiential learning with feedback and/or post training support in later training segments, but preceded by formal delivery methods in early training segments. See Table D.4 in Appendix D.

Follow Up-Greene & Burleson 2003. Greene and Burleson’s follow-up/practice method seems to be a combination post training support, practice drills, and repetition of prior training. “Follow-up training often begins with a reassessment of the clients’ social skills... These reassessments are then followed by “refresher” training procedures that could involve more coaching, role plays, and homework assignments” (Greene & Burleson, 2003, p. 144).

The best social skills training programs involve some form of follow-up... skills will decay unless practiced somewhat diligently. There is little reason to believe that social skills training can be successfully accomplished via one-shot training procedures that teach skills before sending people out into the world with no follow-up. It is essential to monitor the clients’ successes and failures, with attempts to fine-tune their performances. Greene & Burleson, 2003, p. 144

What’s described here is a recursive, long-term combination of all previously described training methods (likely provided formally early in training) with post training transfer support, packaged almost as a practice drill in later training segments. An attempt is not made to position this method in the two dimensional tables as was done with prior methods due to the recursive nature including usage full of all training methods already discussed.

Lecture-Klein 2009. Moving to the second example where an attempt is made to position, and conceptualize IPS training methods along the two training dimensions of delivery method and design elements, Klein’s 2009 meta-analysis of interpersonal skill training is examined. Here, Klein meta-analytically explores four “distinct” (p. 57) training methods: lecture, lecture and discussion, process interventions, and behavioral modeling training. The first training method, lecture, is described as one-way sharing of information with little to no feedback or interaction (i.e., trainer to trainee or trainee to trainee).

These methods typically consist of an oral presentation by a qualified source, but in the context of the current research may be extended to include any method of conveying factual information. As such, this method

also includes computer-based methods of presenting information (e.g., written documents or slideshow presentations). Klein, 2009, p. 57

As described, Klein's lecture method of training IPS is a formal method delivered either by classroom or computer-based media, utilizing presented instruction and potentially workbooks, and focused primarily on declarative IPS knowledge. See Table D.5 in Appendix D.

Lecture and Discussion-Klein 2009. Klein's (2009) second training method, lecture and discussion, is described as a formal, interactive method delivered, again, by classroom or computer-based media, utilizing presented instruction and potentially workbooks, but further includes interactive discussion and elaboration (i.e., active learning). This training method is a combination of "group discussions with traditional lectures and typically focus on generic interpersonal contexts and skills... discussions elaborate and extend upon the information provided during a traditional lecture" (Klein, 2009, p. 59).

As one example, a group of sales managers might participate in a training program for improving their customer interaction skills. In this context, the program might include a lecture on pertinent topics (e.g., nonverbal communication, active listening) and include a group discussion on alternate methods, tips, or suggestions for improving these skills. Moreover, in this method of training delivery, active participation is encouraged and the opportunity for feedback and clarification on key concepts is provided (Burke & Day, 1986)." (Klein, 2009, pp. 58-59)

The lecture plus discussion training method includes formal information presentation in initial training segments, interactive discussion and elaboration in intermediate training segments, and includes feedback and clarification. See Table D.6 in Appendix D.

Process Interventions-Klein 2009. The third training method examined by Klein (2009) was process interventions. He describes process interventions as interactive group activities that focus on the group's interaction processes and are "aimed at assisting individuals and groups to examine, diagnose, and act upon their behavior and interpersonal relationships" (Klein, 2009, pp. 59-60)

One particular process intervention is sensitivity, or *t* group, training. The typical model for sensitivity training includes a group meeting which takes place without a formal agenda. Individuals who participate in sensitivity training are expected to discuss topics related to the group's interaction processes. Formal team building efforts have also been described as process intervention activities (Beer, 1976; Beer, 1980; Buller, 1986; Dyer, 1987), and typically focus on interpersonal relations, goal setting, role clarification, or interpersonal problem solving. Klein, 2009, pp. 59-60

Here, Klein describes a formal process intervention delivery method that involves a great deal of group discussion and interaction among peers. See Table D.7 in Appendix D.

BMT-Klein 2009. The last training method examined by Klein (2009) was behavioral modeling training (BMT). While "modeling" (i.e., passive observation of behavioral demonstration) and "role play" (active participation and production of behavior) are distinct training methods in Greene and Burleson (2003), Klein et al. (2006) distinguish "behavioral modeling" as a specific role playing technique. Despite some of the ambiguity surrounding labels and features, BMT or "behavioral role modeling training" can be viewed as a training

strategy that “incorporates information, demonstration, and practice-based methods. The typical sequence involved in BMT programs includes “a description of skills-behaviors to be learned, prior to, or along with, modeling, and then practice with feedback (Taylor, Russ-Eft, & Chan, 2005, p. 693)” (Klein, 2009, p. 35).

Based on principles of social learning theory, behavioral role modeling training appears to be a combination of modeling and role play with instruction upfront and feedback towards the end. Critical to this formal, multi-segmented training strategy is instruction on interpersonal skill, observation of modeled behaviors, active production and practice of desired behavior, and feedback for modifying the behavior of trainees. Even though the BMT described here may seem limited to instruction, demonstration, and practice in a face-to-face setting (See Table D.8 in Appendix D), similar methods might easily involve computer simulation delivery and design elements including reflection activities, Cases plus group discussion and design of interventions, and post training transfer support among others.

Altogether, it should be apparent that most IPS training programs are multidimensional, multi-method pedagogical instruments. Training of interpersonal skill relies on strategic combinations of instruction, demonstration, experiential learning, personal discovery, feedback, coaching, and peer interaction. For example, all of these elements are present in the Interpersonal Skills Exercise described by Bordone (2000) as part of the Negotiation Workshop at Harvard Law School. The Interpersonal Skills Exercise is a multipart interpersonal skills training program integrating role play, interactive learning environments, videotaped performances, with feedback from peers, course instructors, and trained professionals from the Family Institute of Cambridge.

The first part of the Interpersonal Skills Exercise involves an informal out of class step where students form groups of three and individually select an interpersonal skill to work on and a real life scenario within which to practice the skill. The group size serves a specific purpose given that each group member has three specific roles: a presenter (practicing participant), an absent party (the confederate role play counterpart), and a coach (a third party observer that provides feedback). The next several steps of the training program involve in-class participation in an enrole-ing session, a videotaping session, and a review session (Bordone, 2000).

The enrole-ing session involves the course instructor, all three group members, and a professional family therapist from the Family Institute of Cambridge. The goal of the enrole-ing session is to refine each of the scenarios, work out participant roles, brainstorm approaches to filming, and establish ground rules (e.g., confidentiality, voluntariness, etc.). The videotaping session involves iterative videotaped rehearsals of the scenario, role reversals, and diagnostic analysis of the presenter’s skill. The purpose of the videotaping session is to allow the presenter to get the *other’s* perspective of the interpersonal encounter as well as practice producing the desired IPS. The instructor utilizes the iterations to diagnose why the presenter might struggle to produce the desired IPS and suggest different ways to approach the interaction in the scenario to facilitate appropriate skill production. The review session involves the same participants as the enrole-ing session (i.e., the course instructor, all three group members, and a professional family therapist from the Family Institute of Cambridge). In this final session, segments of each

videotaped scenario are viewed by the group of participants, the coaching process is discussed, and further feedback is given on the production of skill. The training program concludes with each participant-presenter reflecting and writing about their experience (Bordone, 2000).

2.3.2.3. Summary of IPS training methods findings.

One issue to understand regarding the effectiveness of IPS training is that much training is technology driven; and consequently, training method effectiveness is likely moderated overtime by improvements in technology. So as more and more training, virtual simulation or otherwise, is delivered via computer technology (Gilmore & Fritsch, 2001), the effectiveness of the growing delivery trend is likely influenced, among other things, by advances in computer technology (Klein et al., 2006). Bearing that in mind, next some findings on the effectiveness of various training methods are highlighted.

“The accumulated evidence suggests that IPS training should focus on specific, optimal social skills, not on increased general sensitivity or insight” (Klein et al., 2006, p. 109). However, are training programs and courses successful at changing IPS? Results from two meta-analyses suggest that overall (i.e., without moderating by method/design, outcome, task or individual difference factors) IPS training is relatively effective at improving IPS measures. “Arthur, Bennett, Edens, and Bell’s (2003) meta-analysis of training program effectiveness reports mean effect size for interpersonal skills of 0.68 for learning criteria and 0.54 for behavioral criteria” (Lievens & Sackett, 2011, p. 3). Klein’s (2009) overall meta-analysis results indicated that IPS training was effective for improving IPS; based on analysis of 27 independent effect sizes, with a total sample size of 1,482 participants. Groups receiving formal training were associated with greater improvements in IPS ($r = .47$). However, of the four training methods Klein defined to investigate as potential moderators (lecture, lecture and discussion, process interventions, and behavioral modeling training) the review found a sufficient number of primary study effect sizes to evaluate the relative effectiveness of behavior modeling but not the other three training methods. Therefore the Klein meta-analysis results are not representative of the range of IPS training methods.

2.3.2.3.1. Behavioral modeling training.

Behavioral modeling training (BMT) is a widely used training intervention (Taylor et al., 2005) and “has been recognized as the most appropriate instructional method for interpersonal skills training since 1970 (Baldwin, 1992; Goldstein & Sorcher, 1974; Robertson, 1990; as cited in Doo, 2005, p. 215). Recent meta-analyses and research on BMT shows considerable support for the training method. The meta-analysis by Taylor, Russ-Eft, and Chan (2005) indicated the greatest BMT benefit for procedural knowledge with 32 studies ($d = 1.09$), declarative with 4 studies ($d = 1.05$) and followed by attitudes ($d = 0.29$) 14 studies and job behavior ($d = 0.25$). Klein’s meta-analysis (2009) indicated that BMT methods were effective for enhancing cognitive ($r = .44$) outcomes based on 4 studies, and skill-based ($r = .42$) outcomes based on 12 studies, and to a lesser extent, affective ($r = .25$) outcomes, based on 3 studies.

Doo (2005) conducted a study to evaluate the effect of the format of the Behavior Model presentation using BMT for IPS in Online Instruction. The behavior model presentation involved four different formats: video w/ audio, still pictures and audio, audio alone, and text script alone (p. 222). The subjects completed a learner reaction survey and were evaluated with an immediate post training knowledge retention test and then again two weeks later in a mock interview performance test (p. 226). They found no significant differences for learner reactions, short term knowledge retention, or mock interview performance test between the four groups. They conclude that based on the non-significant results that cost effective model presentation approaches should be adequate. The author concluded that knowledge of learning content, knowledge of the IP situation may moderate these findings.

Doo (2006) conducted a case study investigating learners' skills practice in online interpersonal skills training. The purpose of the case study was to identify facilitating factors and constraints of skills practice in online learning environments. The task was a job interview preparation program and the training method was a BMT method patterned after Bandura (1977) and Decker and Nathan (1985) BMT approach. They used video clips to portray both positive and negative models. Learners were encouraged to practice interview skills and participate in mock-up interview. However, they had self-practice opportunities only. The performance measures were similar to Doo (2005): previous knowledge, reaction to the training, knowledge test, rating of interview skills, and self-report of number of times practiced. The author indicates that students that do not practice IPS are limited to gains in knowledge outcomes only. In addition practice was correlated with enjoyment, indicating a level of engagement is necessary for IPS training.

Cullen (2005) compared a self-taught behavior modeling method in which trainees teach themselves the relevant skills and a "group-based" behavior modeling method in which trainees are taught the relevant skills by a trainer" (p. 117). Cullen suggests that IPS are traditionally taught using BMT in a group setting. IP skills were tested using a knowledge test and performance task proficiency, a role playing exercise, videotaped and rated by judges (p. 126). The IPS trained was giving constructive feedback. An aptitude-treatment interaction approach was used with the aptitude being introversion. Specifically, the hypothesis was tested that introverts will learn IPS better in a self-taught condition than in a group-based condition, and that extraverts will learn these skills better in a group-based condition. The hypothesis was not supported. However, post- hoc results indicated that IPS training, in particular self-training versus group training may be affected by arousal level and openness to experience with open and high arousal trainees doing better in the self-study condition, and less open and aroused trainees doing better in the group condition.

2.3.2.4. *Research needs.*

More research is needed to determine when and where other training strategies (other than BMT) will be effective for improving specific IPS. Klein et al. (2006) list several need areas for further research:

- Research into the practicality of low-cost information and demonstration-based IPS training methods.
- Research into the relationship of distributed team performance on IPS training methods.
- Research into moderators of IPS training retention and transfer performance.

In addition to the research needs on the relationship between IPS and IPS training mentioned above, two significant gaps should be noted as high priority research areas for the IPS domain. First, beyond the findings indicating benefit of BMT on IPS skill in general, more research is needed on the relationship between various training methods and specific types of interpersonal skills. This gap was beyond the scope of the most recent meta-analysis in the IPS domain (Klein, 2009) and sparsely addressed in the breadth of IPS literature reviewed in the current work. The skill specific reviews presented in the second half of this report take a step forward in filling the knowledge gap regarding the skill – training method relationship in the IPS domain. The second gap relates to transfer. More research is needed examining transfer effectiveness beyond the training environment and into workplace and real life situations.

2.3.3. Interpersonal skill assessment and measurement.

The distinction between active listening skill training and active listening skill assessment is hazy at times, but primarily based on intent and design. Some forms of instruction, modeling, and social simulation were observed for both training and assessment. In the former, the intent is to create a situation within which active listening skill, knowledge, or affect can be acquired; and consequently, the designs that demonstrate training effectiveness of the program to these ends attempt to show gain pretest to posttest or posttest only between a trained and non-trained group. In the latter, the intent is to create a situation within which data can be collected regarding an individual's competency or traits; but there is no concept of change/attainment inherent to the concept of assessment. In part, the hazy distinction is due to the non-mutual exclusivity of situations. Typically, training situations involve some form of assessment to show merit and effectiveness; however, assessment can take place outside of the training context, e.g., selection, performance appraisal, etc.

To help further clarify the distinction between IPS assessment and IPS measurement, the literature on each was distilled into what we've label the *essential questions* that differentially pertain to assessment and measurement. Each of these *essential questions* are highlighted in the beginning of the respective sections and further serve to organize the proceeding discussions on each topic.

2.3.3.1. IPS assessment

In the current IPS review, assessment was defined as the process of collecting IPS relevant data for the purpose of describing or bettering understand an issue of IPS. 42 papers were included and reviewed for the summary of IPS assessment. A number of specific assessment instruments are discussed in detailed in Green and Burleson (2003, pp. 106-116) and a number of other instruments are listed in Bowden et al. (2003).

2.3.3.1.1. IPS assessment – essential questions.

Three overarching dimensions were found to conceptually organize the assessment literature on IPS. These dimensions can be represented as three essential questions related to assessment of interpersonal skills:

1. What type of IPS is being assessed (individual difference or competency)?
2. What is the purpose of the IPS assessment (identify candidates for IPS training, identify IPS to be trained, or identify acquisition of trained IPS)?
3. What method of IPS data collection is being used (Text-based, Oral interview, Computer-based simulation, Live action, Real life behavior)?

2.3.3.1.2. Types of IPS assessment

The first essential question organizing the literature on IPS assessment asks: what type of IPS is being assessed? In her review of the state of the science on IPS measurement, Bedwell et al. (2012) described two general areas of IPS assessment, individual differences and competencies. Assessment of individual differences focuses on understanding social and emotional intelligences, previous life experience and prior social interaction experience, and personality factors. Assessment of IPS competencies focuses on understanding the skills, presumably trainable, captured in the IPS taxonomies.

Assessment of individual differences seeks to understand the unique dispositions a trainee might bring with them to training. For the assessment of individual differences, Bedwell et al. (2012) lists a number of different assessments specific to each element (pp. 16-20). For example:

- Social/emotional intelligences: Social Skills Inventory.
- Prior experience: Situational judgment tests.
- Social/emotional intelligences and prior experience: Behavioral narratives (e.g., self-report – personal statements, biodata, etc., or provided from others – letters of recommendation) and assessment centers.
- Personality: Big Five Personality traits – 16PF questionnaire.

Assessment of IPS competencies seeks to understand how much skill a trainee has, often before and after training. Underlying assessment of IPS competencies is the assumption that they are trainable skills or abilities. Bedwell et al. (2012) also lists a number of different assessment classes of IPS competencies (pp. 21-23). For example:

- Questionnaires:
 - Self ratings (e.g., soft skills questionnaire), peer evaluations (e.g., Comprehensive Assessment of Team Member Effectiveness), situation judgment tests (e.g., the Teamwork Test), etc.
- Behavioral observation scales:
 - Observer ratings of behavioral referents exhibited by the trainee.

- Social network analysis (SNA):
 - “SNA can be utilized to analyze IPS by focusing on communication patterns, interpersonal relationships, and power relationships” (Bedwell et al., 2012, p. 23).

2.3.3.1.3. *Purpose of IPS assessment*

The second essential question organizing the literature on IPS assessment asks: what is the purpose of the IPS assessment? Greene and Burleson (2003) describe three purposes for assessment in the IPS domain: identifying candidates for IPS training, identifying the specific IPS to be trained, and identifying the acquisition of trained IPS.

- Identify candidates for IPS training:
 - Involves identifying the people who will not only likely benefit from training, but are both capable of receiving training and are willing to build their IPS.
- Identify IPS to be trained:
 - Involves assessing the breadth of IPS deficiencies that are to be targeted by training, and therefore, the specific type of training that should be designed and administered.
- Identify acquisition of trained IPS:
 - Assessing acquisition is largely related to evaluation and identification of deficiencies; however, assuming that deficiencies can be assessed prior to training, the same assessment administered post training (as well as real life behavior) can be used to assess gain, or effectiveness of training in reducing deficiency.

2.3.3.1.4. *Types of data collection methods for IPS assessment*

The third essential question organizing the literature on IPS assessment asks: what method of IPS data collection is being used? Bowden et al. (2003) describe five types of data collection methods used to assess IPS in their review of the literature. These methods include: text-based data collection, oral interview data collection, computer-based simulation data collection, live action data collection, and real life behavior.

- Text-based data collection methods:
 - The class of text-based assessment methods utilizes textual media as its basis within the process of data collection on IPS, typically questionnaires or similar tests.
- Oral interview data collection methods
 - The class of oral interview assessment methods utilizes verbal media (presentation and response) as its basis within the process of data collection on IPS, typically structured or semi-structured face-to-face interviews. The use of structured interviews for IPS data collection are typically based on a job analysis, target collecting data on job specific KSAs, and use standardized scoring criteria. Unstructured interviews for IPS data collection are typically open-ended and

collect general, impression-based data on an individual's IPS (Bowden et al., 2003; Huffcutt et al., 2001).

- Computer-based simulation data collection methods
 - The class of computer-based simulation assessment methods utilizes static and/or dynamic video or 3-D computer simulations as its basis within the process of data collection on IPS, typically using scenarios very similar to those used in text- and interview -based techniques; however, computer simulations replace the textual presentations of scenarios and offer some additional flexibility since respondents can be queried at critical decision points in the scenario for the best response given the conflict they have been observing, for key characteristics of the scenario, or for actions that may lead to resolution of the conflict.
- Live action data collection methods
 - The class of live action assessment methods utilizes hypothetical situations acted out by participants in **individual, group, or role play** contexts. Participants are presented with an IPS situation and required to discuss or act out the appropriate interactions and responses. These types of live action exams allow for SME ratings of behavior.
- Real life behavior data collection methods
 - The class of real life behavior assessment methods utilizes actual work behavior performance to assess IPS.

2.3.3.2. IPS measurement

In the current IPS review, measurement was defined as the process of determining variable attributes of IPS data with standard or ad hoc instrumentation. Thirty-three papers were included and reviewed in the IPS summary of measurement.

2.3.3.2.1. IPS measurement – essential questions.

Three overarching dimensions were also found to conceptually organize the measurement literature on IPS. In line with the assessment conceptualization, the measurement dimensions are also represented as three essential questions related to measurement of interpersonal skills:

1. What component of IPS is being measured (cognitive, behavioral, or affective)?
2. What is the purpose of the IPS measurement (selection, performance appraisal, or training support)?
3. What form of IPS response data is being collected?

2.3.3.2.2. Measureable components of IPS

The first essential question organizing the literature on IPS measurement asks: what type of IPS is being measured? Bedwell et al. (2012), Greene and Burleson (2003), and Klein (2009) describe three measurable components of IPS, also known as the referent or the “behavioral content or domain of reference” (Greene & Burleson, 2003, p. 102). These are the cognitive, behavioral, and affective IPS components.

The cognitive IPS components are outcomes that include declarative knowledge about, or cognitive aspects of, interpersonal interaction. Cognitive outcomes focus on concepts and the relationships among them; often examined in the context of planning, evaluating, analyzing, and reflecting on interactions. Cognitive components are easily measured with tests. The behavioral, or skill, IPS components are skill-based outcomes associated with observable behavioral referents. For example, nonverbal interaction behaviors, such as eye contact, smiling, gesturing, and nodding are observable exemplars of nonverbal communication skill. Behavioral referents are easily measured with behavioral observation checklists. The affective, or attitudinal, IPS components are outcomes including self efficacy, satisfaction, and a variety of motivational characteristics such as arousal, anxiety, nervousness, apprehension, interest, goals, desires, needs, effort, or values (Bedwell et al, 2012; Greene & Burleson, 200; Klein, 2009).

2.3.3.2.3. Purposes for IPS measurement

The second essential question organizing the literature on IPS measurement asks: what is the purpose of the IPS measurement? Bedwell et al. (2012) discusses three primary purposes for measuring IPS: selection decisions, performance appraisal, or training support.

Measuring IPS for selection decisions involves using measured IPS to select, match, and assign individuals to jobs or job tasks. IPS data used for selection decisions must be sensitive and reliable enough to distinguish between individuals with high skill levels and individuals with low skill levels. Measuring IPS for performance appraisal or job promotion involves using IPS data to evaluate and compare individuals within an organization as means to awarding promotion, pay raises, etc. Measuring IPS for training support involves using IPS data to identify IPS deficiencies, inform development of target training programs, and then measuring gain post training (Bedwell et al., 2012).

2.3.3.2.4. Forms of IPS response data for each type of IPS data collection method

The third and final essential question organizing the literature on IPS measurement asks: what form of IPS response data is being collected? Bowden et al. (2003) describe a number of types of IPS data in their review of the literature. Each form of response data is discussed below grouped under the associated type of data collection method.

Text-based data collection methods include fixed response self-reports, free response self-reports, force choice self-report, and scenario-based fixed and free response self-report (Bowden et al., 2003):

- Fixed response self-report requires respondents to select one or more responses from a predetermined set of possible answers in response to textually presented questions. Answers are not necessarily mutually exclusive and sometimes selecting multiple options is an appropriate response. This method of text-based assessment often uses multiple choice and does not have a single correct or best answer.
- Free response self-report requires respondents to write their own open ended response to a question in response to textually presented questions. There generally is not any right

or wrong answer, but responses can be evaluated for quality, comprehensiveness, etc. This method of text-based assessment typically includes asking respondents for a belief, opinion, or short essay.

- Forced choice self-report requires respondents to select a single response from a list of possible answers in response to textually presented questions. Answers are mutually exclusive and generally have a best or correct answer. This method of text-based assessment typically includes dichotomous choice, multiple choice, and ratings scales.
- Scenario-based self-report can require either fixed or free responses. In the former, respondents select one or more responses from a predetermined set of possible answers in response to textually presented scenario and stem question that “describes the situation and provides a problem that requires a decision to be made. The response options provide realistic actions for handling the problem situation. Unlike typical multiple-choice tests, there is not one correct answer and several wrong answers. Rather, each option is a plausible way of handling the situation, with some options being better than others” (Bowden et al., 2003, p. 15). In the latter, respondents are required to write a response (analysis, course of action, etc.) to the textual scenario.

Oral interview data collection methods include the collection of verbal responses to situational and behavioral interpersonal interaction questions, where:

- “Situational questions present interviewees with hypothetical situations and ask them to describe what they would do if they were faced with the situation described” (Bowden et al., 2003, p. 19).
- Behavioral descriptions (can be experience-based rather than hypothetical), ask “the respondent to describe the situation, how he/she behaved in the situation, and the result of the action” (Bowden et al., 2003, p. 19).

Bowden et al. (2003) describe four possible response combinations with the computer-based simulation data collection method: high fidelity stimulus and response, high fidelity stimulus and low fidelity response, low fidelity stimulus and high fidelity response, and low fidelity stimulus and response. Only high fidelity stimulus and low fidelity response examples were located in the in the present literature review, i.e., watching a video simulation of a scenario and responding with text-based response data.

The forms of IPS response data collected with the live action data collection method include behavioral observation checklists and rating scales (Bowden et al., 2003). Checklists will often include discrimination of behavior exhibited or not, frequencies/percentages of behavioral production, and observer notes. Ratings will often include scaled response for quality of behavioral production and ratings for specific interaction behaviors. For example:

- SME ratings of “Interaction Flow includes such things as opening the discussion, discussing needs of both parties, and mutually developing a solution” (Bowden et al., 2003, p. 16).

- SME ratings of “Interaction Outcomes focus on whether the solution took common interests into account, whether the outcome is tied to objective criteria, and whether it will maintain or improve the relationship” (Bowden et al., 2003, p. 16).
- SME ratings of “Communication includes effective use of nonverbal behavior, being problem focused, active listening, style flexibility, and maintaining composure” (Bowden et al., 2003, p. 16).

The forms of IPS response data collected with the real life behavior data collection method include performance reviews and work product reviews (Bowden et al., 2003).

2.3.3.3. IPS assessment and measurement integration

IPS assessment and IPS measurement can be conceptualized together by combining the two sets of essential questions for each (Table 5). For each assessment question, also answer each measurement question. For example, first choose which type of IPS is being assessed, individual difference or competency. If say competency is being assessed, then what component of IPS competency will be measured (cognitive, behavioral, or affective), for what purpose (selection, performance appraisal, or training support), and using what form of response data?

Table 5. Conceptual integration of assessment and measurement

Assessment → Measurement ↓	Individual difference or competency	Identify candidates for IPS training, identify IPS to be trained, or identify acquisition of trained IPS	Text-based, Oral interview, Computer-based simulation, Live action, Real life behavior
Cognitive, behavioral, or affective			
Selection, performance appraisal, or training support			
Form of IPS response data			

2.3.3.4. Summary of research findings for assessment and measurement.

Klein (2009) meta-analytically explored the relationship between personality traits and IPS, specifically examining the big 5 personality traits (i.e., agreeableness, conscientiousness, emotional stability, extraversion, and openness to experience) with various IPS competencies. Extraversion proved the strongest relationship with interpersonal skills (pp. 88-89):

- General IPS ($r = .36$)
- Interpersonal Communication Skills ($r = .23$)
- Relationship Building Skills ($r = .14$)

Klein (2009) also explored the relationship between IPS competencies and IPS outcome measures (cognitive, affective, and skill-based). While the strongest relationship between outcomes and competencies was with his *general* IPS category, interpersonal communication skill and relationship building skill were examined separately.

- General IPS (Klein, 2009, pp. 90-91):
 - cognitive outcomes ($r = .23$)
 - affective outcomes ($r = .18$)
 - skill-based outcomes ($r = .37$)
- Interpersonal Communication Skills (Klein, 2009, p. 90):
 - cognitive outcomes ($r = .34$)
 - affective outcomes ($r = .24$)
 - skill-based outcomes ($r = .27$)
- Relationship Building Skills (Klein, 2009, p. 90):
 - cognitive outcomes ($r = .01$)
 - affective outcomes ($r = .21$)
 - skill-based outcomes ($r = .27$)

2.3.3.5. *Summary of research issues for assessment and measurement.*

Numerous issues with IPS assessment and measurement were identified in the literature. These included: the *fakeability* of the response (Bowden et al., 2003); criterion operationalizations (Greene & Burleson, 2003, pp. 119-120); and trait, method, and error variance in measurement (Bedwell et al., 2012, pp. 24-28). How “fakeable” a response is involves how open to interpretation of intent the stimulus is. Rather than respond honestly about how they feel, what they think, how they would respond, etc., people can fake their responses to make themselves look better if they can interpret what a favorable versus true answer is (Bowden et al., 2003). The criterion operationalizations deal with the performance, or competence, thresholds. “Competence can be arrayed along a continuum from “minimal” to an “optimal” achievement. As such any assessment approach must address what ultimate criterion of competence must be displayed”, where minimal defines the lowest level of acceptable performance that can be considered adequate competence and optimal defines the most advantageous level of performance given varying circumstances of difficulty.

The issues associated with trait, method, and error variance are related to operationalization of the IPS construct, systematic variance in measurement of the construct, and random error in construct measurement. Bedwell et al. (2012) also state that “the source of the ratings can influence the outcome of measurement” (p. 24) and list several examples. These include: consistency motif, social desirability, acquiescence bias, and self-serving bias.

- Consistency Motif: “Both theory and empirical evidence suggest that individuals try to remain consistent in their thoughts and feelings (McGuire, 1966; Osgood & Tannenbaum, 1955). This tendency has been labeled the *consistency motif* or *effect* (Johns, 1994; Podsakoff & Organ, 1986; Salancik & Pfeffer, 1977; Schmitt, 1994)” (Bedwell et al., 2012, p. 25).
- Social desirability: “*Social desirability*, or —the need for social approval and acceptance [through] culturally acceptable and appropriate behaviors” (Crowne & Marlowe, 1964, p. 109), may also influence responses. Hence, individuals try to present themselves in a favorable manner, regardless of their true feelings or tendencies to behave in certain ways” (Bedwell et al., 2012, p. 25).

- Acquiescence Bias: “When respondents generally agree (or disagree) with questionnaires, regardless of the content, this is referred to as *acquiescence bias* (Winkler, Kanouse, & Ware, 1982). This is problematic because it may make some of the dimensions of IPS seem related, when in fact, they are not” (Bedwell et al., 2012, p. 26).
- Self-serving Bias: “Attribution theory suggests that individuals attribute their own good performance to their own traits/dispositional factors and poor performance to external factors. With regard to IPS, any particularly good example of effectively using IPS will result in high self-ratings. Any particular example of ineffective IPS will *still* result in a high rating of IPS as the employee will attribute a poor IPS display to environmental factors or some other issue, not to their own personal mastery level” (Bedwell et al., 2012, p. 26).

3. Skill Specific Reviews

3.1. Method

3.1.1. Approach.

To initiate exploration of the relationships between training types and specific IPS (a notable gap in the current IPS literature), six skill-specific surveys of the literature were performed. Several prominent social science databases were targeted in database service of EBSCO and parallel searching was performed in DTIC.

3.1.2. Literature searches.

Two separate literature searches were conducted in the EBSCO databases of Academic Search Premier, Business Source Premier, CINAHL, ERIC, PsycARTICLES, PsycINFO, and Social Science Abstracts, as well as, in DTIC. The first search targeted the term for a specific interpersonal skill (i.e., active listening, assertive communication, nonverbal communication, relationship building, conflict resolution, or negotiation) and keyword “review” or “meta” to survey the literature for literature reviews and/or meta-analyses related to active listening skill. The second search targeted the term for a specific interpersonal skill and experimental training findings to survey the literature for quantitative studies of the effectiveness of specific interpersonal skill training interventions. Unlike the broader IPS review reported in the first half this report, the skill specific reviews did not impose any restrictions on publication date.

3.1.3. Inclusion criteria.

The inclusion criteria used in the search for literature reviews and meta-analyses was less stringent than the inclusion criteria used in the survey for experimental studies. Papers were judged informative towards the review if: (a) the interpersonal skill of interest was central to the study, (b) an actual review of training methods or training effectiveness was presented, and (c) any form of quantitative synthesis of training effectiveness was presented. In contrast, the search for experimental studies on training effectiveness utilized a more strict set of criteria. Inclusion criteria used in the survey for quantitative training studies were:

- The interpersonal skill of interest is central to the study.
- Must have a training intervention focused on increasing interpersonal skill.
- Must have a normal health adult population relevant to the Army. This excluded:
 - Any disabled populations.
 - Age population less than juniors in high school.
 - Age populations older than 55 or specifically labeled as "elderly" or "older adults."
- Must at least have a posttest measure of performance or learning, with a pretest and posttest preferred.
- Must have at least an “other training” comparison group and training “treatment”, true control with no training preferred.

3.1.4. Abstract filtering & coding.

As a general process, the abstracts of all search results were initially skimmed to eliminate abstracts that were topically irrelevant. Potentially relevant abstracts were reviewed against the general inclusion heuristics for the review and meta-analysis search, and, against the strict inclusion criteria for the experimental study search. All studies that were included contributed final frequency counts of *included* manuscripts.

Specific to the search for experimental studies, a more detailed round of coding took place during the abstract reviews. Here, every abstract was first coded using the following set of inclusion codes:

- 0 - Exclude completely
- 1 - Exclude from meta-analysis count, but follow-up
- 2 - Include in meta-analysis count

A code of “2” was given for all abstracts that met the full set of inclusion criteria. A code of “1” was given to an abstract that was clearly relevant to the skill-specific review, but couldn’t be counted as a candidate paper for meta-analysis. A code of “0” to exclude completely was given to abstracts that neither met all inclusion criteria nor were relevant for review. For all abstracts given a code of “1”, the abstract was additionally coded for the context of relevance using the following set of codes:

- 1 - Abstract indicates a review of the literature on the interpersonal skill of interest
- 2 - Abstract describes, or indicates description of, findings of prior training programs for IPS
- 3 - Abstract describes, or indicates description of, methods of IPS training programs
- 4 - Abstract describes, or indicates description of, existing or novel methods of assessing IPS skill (standardized assessment methods of primary interest)
- 5 – Other (memo reason)

For all abstracts coded “2” to include in the candidate papers for meta-analysis, two additional levels of coding were applied to capture design characteristics. The first of the two additional codes captured the timing of performance measurement. Studies including both a pretest and a posttest were coded as “2”; studies with only a posttest were coded as “1”; and abstracts that did not provide enough detail were coded as “0”.

Measurement:

- 0 - Not enough detail provided
- 1 - Posttest only
- 2 - Pretest AND Posttest

The second of the two additional codes for studies meeting all inclusion criteria captured the nature of the experimental conditions manipulated in the study. Studies with a true, no training control group were coded as “3”; studies with a comparison control group (i.e., standard training or another different form of training than the treatment) were coded as “2”; one group studies were coded as “1”; and abstracts that did not provide enough detail were coded as “0”.

Manipulations:

- 0 - Not enough detail provided
- 1 - Treatment only
- 2 - "Other training" comparison group
- 3 - "No Training" control group

3.1.4.1. *Coder training.*

All researchers participating in abstract reviewing and coding received training on the filtering and coding process to ensure consistent results across reviewers and skills reviewed. First, instruction was provided on the goals of the abstract reviews, the coding process, and the definitions of each code. Trainees were provided written directions and guidelines to complement verbal instruction. Next, trainees were given a set of 6 sample abstracts to review and code. All trainees received the same six sample abstracts and a coding template in MS Excel. Two days later trainees and trainer got back together to review the sample coding results. All areas of both agreement and disagreement were discussed, discrepancies worked through, and any process issues were addressed. The overall reliability for the four reviewers was assessed with the intraclass correlation coefficient; ICC=0.9.

3.1.5. Data collection.

The majority of the data for the skill summaries were collected using a data collection template (Appendix E). The template included the following fields:

- Full APA Reference of Study
- How is the IPS defined?

- What type of IPS training is described?
- How is IPS assessed?
- What elements of IPS are measured?
- What did the study report for findings regarding the effectiveness of IPS training?
- Comments

3.1.6. Synthesis of the skill specific research.

Syntheses of the literature on each of the six specific interpersonal skills reviewed was at a conceptual level in narrative style and drew from three information sources: relevant information brought in through the general IPS review discussed earlier, information (when available) brought in through the search for literature reviews and meta-analyses, and lastly, any relevant information from the survey for experimental studies.

The intent of the synthesis was not to be exhaustive; rather, to be selective and descriptive. That is, for each skill, key information was collected from the IPS overview literature as well as from any reviews or meta-analyses on the skill. From these two sources a general state of the research was crafted. Then, select pieces of literature from the quantitative study review were added where needed to complete the skill summary. The literature surveys served as initial orientation to the literature for each interpersonal skill, helped refine working definitions and alternative skill labels, formed a preliminary understanding of the extant research on each skill, and a sampling of the types, volume, and time distribution of the experimental literature available for further detailed review and analysis.

3.2. Search Results

Results for the literature review and meta-analysis searches are presented separately from the searches for experimental findings for each of the six IPS targeted.

3.2.1. Review & meta keyword searches.

Searches for available literature reviews and meta-analyses on the six interpersonal skills examined in more detail resulted in identification of a limited number of manuscripts. Details of the search results for the survey of literature reviews and meta-analyses are provided in Table 6.

Table 6. Results of survey for literature reviews and meta-analyses

Interpersonal Skill Targeted	EBSCO		DTIC	
	Search String: Keyword AND review OR meta NOT "book review" (title)		Search String: Keyword AND review OR meta	
	Delimitations: none		Delimitations: none	
	# of Search Hits	# of Manuscripts Included in IPS Review	# of Search Hits	# of Manuscripts Included in IPS Review
"Active listening"	0	0	0	0
"Assertive**"	47	4	0	0
"non verbal communication" OR "nonverbal communication" OR "non-verbal communication"	32	0	0	0
"Relationship building"	3	0	0	0
"Conflict resolution"	43	1	0	0
"Negotiation"	105	3	0	0

3.2.2. Experimental keyword searches.

Searches for available empirical training studies on the six interpersonal skills examined in more detail resulted in identification of a number potential papers to be considered for inclusion in quantitative synthesis. Details of the survey for quantitative studies are provided in Table 7. In the following text we describe the findings for each of these six skills in some detail.

Table 7. Results of survey for quantitative studies

Interpersonal Skill Targeted	EBSCO			DTIC		
	Search String: Keyword (title/abstract/subject) AND training OR learning (title/abstract/subject) AND experiment OR data OR results OR analysis (abstract)			Search String: Keyword AND experiment AND training AND "control group" OR pretest (anywhere in document)		
	Delimitations: NOT child* OR disab* OR elderly OR "machine learning" OR algorithm OR agent OR Bayesian (all text)			Delimitations: none		
	# of Search Hits	# of Abstracts Reviewed	# of Candidate Papers for Meta-Analysis	# of Search Hits	# of Abstracts Reviewed	# of Candidate Papers for Meta-Analysis
"Active listening"	92	80	20	29	-	0
"Assertive**"	1392	902	99	116	-	0
"non verbal communication" OR "nonverbal communication" OR "non-verbal communication"	435	388	24	49	-	2
"Relationship building"	121	119	8	23	-	2
"Conflict resolution"	626	513	52	212	-	3

"Negotiation"	1331	1065	21	408	-	2
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3.3. Findings

3.3.1. Active listening skill summary.

Generally speaking, actively listening is considered a sub-skill under the broader umbrella term *interpersonal communication skills*, an umbrella term typically used to encompass the sub-skills of oral communication, written communication, nonverbal communication, assertive communication, and active listening (Bowden et al., 2003; Green, 2010; Klein, 2009; Klein et al., 2006; Young & Murphy, 2003).

3.3.1.1. Active listening skill definition.

Active listening can be defined as listening attentively, responsively, and nonjudgmentally in a two-way exchange for the purpose of meaning-making and understanding; that is, paying attention to both what is being say as well as what is being done (i.e., nonverbal behaviors) and responding or reciprocating appropriately to questions, ambiguities, and nonverbal cues (Klein et al., 2006; Bowden et al., 2003, Duffy et al., 2004; Montgomery, 2007; Weger et al., 2010; Tyler, 2011). Examples of this skill in action include "listening with empathy and sympathy; listening for understanding" (Klein et al., 2006, p. 85) and "being personally present in the moment... [and] mindful of the importance of the [interpersonal] relationship" (Duffy et al., 2004, p. 498).

3.3.1.2. Alternative labels for active listening skill.

In an attempt to build a more comprehensive lexicon for identifying active listening skill in the literature, alternative skill labels observed in the literature reviewed for *active listening* were noted and are listed below:

- Empathic listening (Behrs, 1995, p. 14; Weger et al., 2010, p. 35).
- Reflective listening (Fisher, 2007).
- Authentic listening (Tyler, 2011, p. 144) .
- Speaker-listener model/technique (Weger et al., 2010, p. 35).
- Deliberative listening (Behrs, 1995, p. 14).
- Creative, active, sensitive, accurate, empathic, nonjudgmental listening (Rogers, 1980, p. 14).

3.3.1.3. Background on active listening.

In Tyler's (2011) review of the roots of active listening for comparison with current business website usage of the concept, Carl Rogers is credited as "the father of active listening" (p. 143) in his work in client-centered therapy during the 1950's, 1960's, 1970's, and 1980's. Furthermore, Rogers' 1980 publication, *A Way of Being*, is credited as "his seminal work" (Tyler, 2011, p. 144) in which active listening was presented along with five additional terms: a way of listening that involves "a creative, active, sensitive, accurate, empathic, nonjudgmental

listening” (Rogers, 1980, p. 14, as cited in Tyler, 2011). Despite the credited roots of the active listening concept to Rogers (Tyler, 2011; Weger et al., 2010), Weger and colleagues (2010) indicate that “the term “active listening” was formally coined by Gordon (1975) as a description of a set of verbal and nonverbal skills essential to effective parent-child communication” (p. 35).

Although there is some concern whether or not modern usage of the term active listening still reflects a genuine, nonjudgmental attempt to understand the speaker’s experience and perspective (Tyler, 2011), shades of the original intent can still be gleaned from more recent heuristic representations such as the HEAR model of active listening (Booze-Allen and Hamilton, Inc., 1990, pp. 4-17 through 4-18).

H - HEAR the sender's words:

- Listen.
- Concentrate.
- Eliminate or control distractions.
- Avoid "mental arguing".
- Avoid mentally criticizing the speaker's delivery.
- Avoid overreacting to certain words and phrases.

E - EMPATHIZE with the sender:

- Display an interest in understanding the speaker's point of view.
- Listen for the facts, ideas, and feelings.
- Listen for the thoughts behind the words.

A - ANALYZE the sender's words and thoughts:

- Thinking is faster than speech. Use your extra "thought time" to summarize, review, and anticipate.
- Use open-ended questions that cannot be answered with a simple "yes" or "no" to help the sender focus on a specific topic.
- Check your analysis with the sender. Paraphrase and summarize. Verify perceptions.

R - RESPOND - We tend to interrupt and not listen to the whole thought:

- Pay attention and show it.
- Hold off on your evaluation.
- Do respond.
- Check to be sure the sender understands your response.

While not intended as an exhaustive representation of all fields, the majority of the sources reviewed on active listening fell into one of the following task domains and generally involved some sort of interview-like context: *Medical Care* (Fassaert, van Dulmen, Schellevis, & Bensing, 2007; Wong, Cheung, Lee, Cheung, Leung, Wong, & Chan, 2007), *Communications* (Weger et al., 2010), *Counseling* (Behrs, 1995; Cheon & Grant, 2009; Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008; Rogers & Welch, 2009; Weger et al., 2010), *Criminal Justice* (Van Hasselt, Baker, Romano, Sellers, Noesner, & Smith, 2005), *Military* (Bowden et al., 2003; Bosshardt, DuBois, Paullin, & Carter, 1998; Booze-Allen and Hamilton, Inc., 1990; Dolmetsch, McDougal, & Vause, 1992), *Education* (Pedrini, Pedrini, Egnoski, Heater, & Nelson, 1976), *Nursing* (Weger et al., 2010), or *Organizational Studies* (Tyler, 2011).

3.3.1.4. Active listening skill training methods.

No existing literature reviews or meta-analyses were discovered for training of active listening skill. Consequently, the broad state of training for active listening skill presented here could not leverage any existing syntheses. However, using literature collected from the IPS review and the survey of experimental active listening research, training method information was compiled and is briefly described below.

A variety of training programs and combinations of training methods were observed for active listening skill in the literature. The methods included: *classroom lecture and discussion* (Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008) *workshops with activities and discussion* (Behrs, 1995), *web-based instruction and video scenarios* (Cheon & Grant, 2009; Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008), *experiential role play with a simulated counterpart* (Van Hasselt, et al., 2005), *experiential role play with peers* (Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008), and *role play with standardized patients* (Rogers & Welch, 2009; Wong, et al., 2007). Common to the majority of the training was either a limited or focal social simulation within which the active listening skill was produced by trainees or at least observed and discussed.

3.3.1.5. Active listening skill assessment and measurement methods.

Behavioral demonstration of active listening skill can be assessed in real life situations or a variety of live action role playing situations in which participants act out a part of a social interaction and their behaviors are rated, often by standardized patients, SMEs or real patients/clients, and the results are used to provide corrective feedback. One particular behavioral observation scale that was developed for this very purpose was the Active Listening Observation Scale, or ALOS-global (Fassaert et al., 2007). Initial evidence suggests that the AOLS-global is both a reliable and construct valid assessment of active listening skill. It provides 7 items that patients rate their physicians on during a consultation using a 5 point Likert scale with end points labeled *never* to *always* (Fassaert, et al., 2007, p. 262):

1. Shows not to be distracted during the consultation
2. Is not off-hand or hasty
3. Listens attentively
4. Gives patient time and space to present the problem
5. Uses exploring questions
6. Is good in leading the conversation
7. Expresses understanding non-verbally

However, active listening skill can also be assessed with simulations or videos (i.e., high fidelity stimulus, high/low fidelity response) in which participants watch manipulated or naturalistic scenarios of interpersonal interactions and provide responses regarding observed active listening behaviors. Scenarios can also be delivered as text-based descriptions (i.e., low fidelity stimulus, low fidelity response) followed by text-based responses (Bowden et al., 2003; Greene & Burleson, 2003). Scenarios can range from informal, context specific situations (e.g., Cheon & Grant, 2009; Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008; Van Hasselt et al., 2005; Wong et al., 2007) to standardized, generic interpersonal interactions such as the Watson

Barker Listening Test (e.g., Dolmetsch et al., 1992; Watson, Barker, Roberts, & Roberts, 2001). For example, Van Hasselt et al. (2005) developed a role play test requiring responses to simulated audio prompts. Participant responses were evaluated by SMEs on active listening skills. The results successfully discriminated expert from nonexpert crisis negotiators. In the Watson Barker Listening Test, participants watch video of statements and interpersonal conversations. Test items appear on the screen at predetermined points in the video. The test proctor reads aloud several possible answers and participants mark their answers on individual paper & pencil answer sheets. Answers are scored individually using a standardized rubric and performance is evaluated based on a range of scores, e.g., 100-95 is “excellent” to 52-0 is “very poor” (Watson et al., 2001).

3.3.1.6. Summary of findings on active listening skill training.

Weger and colleagues (2010) present a very thorough review of the active listening research and a wealth of references for further review.

Weger and colleagues (2010, pp. 36-39) observe an interesting division within the empirical research on training active listening. One body of research examines the effect of training individuals to engage in active listening behaviors across different situations, while the other body of research examines the range of benefit to the trainee whom engages in active listening behaviors. Generally speaking, in the former body of research evidence suggests that: (a) active listening is a trainable interpersonal skill, (b) acquisition of active listening skill improves overall listening skill, and (c) acquired active listening skill is retained by learners. In the latter body of research, evidence suggests general benefits to individuals that engaged in active listening that included: (a) increased perceived self efficacy for interpersonal communication, (b) less anxiety and increased confidence for dealing with challenging interpersonal situations, and (c) increased likelihood of conflict resolution. Weger and colleagues report mixed evidence regarding cost/benefit to recipients of active listening behaviors.

The remaining active listening training findings are organized around two common training method features of the active listening literature, the use of the role play (i.e., live social simulation) instructional design element and training delivery with either face-to-face or web-based platforms. Even though discussed separately, as emphasized previously by both Greene and Burleson (2003) and Gilmore and Fritsch (2001), most training programs involved multiple methods across multiple training modules or segments, often ordered in increasing difficulty.

3.3.1.6.1. Role play.

Various forms of live social simulation were prevalent in the active listening training literature. Behavioral modeling training was the most complex of these training programs involving instruction, modeling, role play, discussion, and feedback. Klein et al. (2006) note that behavioral modeling training led to high behavioral scores for active listening as well as high retention of skill. Similarly, Huerta-Wong found that regardless of delivery format, face-to-face or online, students who received active listening instruction, discussion, modeling, and social simulation exercises scored higher in satisfaction, perception of learning gains, and learning than

did students who only received active listening instruction, readings, and discussion (Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008). Rogers and Welch (2009) describe a semester long training module in active listening skill that included lecture, discussion, practice with feedback, and role play with standardized patients. Although the course did not involve a comparison group, post test ratings of the capstone client interview by both standardized patients and the social work students suggest that students had effectively engaged in appropriate active listening behaviors.

3.3.1.6.2. Face-to-face and web-based platforms.

Behrs (1995) found that a 4 hour face-to-face workshop on active listening skill that involved lectures, demonstrations, discussion, structured and informal exercises, and work related role playing situations not only resulted in higher cognitive gains pretest to posttest for the treatment group over the non attending control group, but the treatment group further demonstrated retention in a delayed posttest. Huerta-Wong compared the effectiveness of face-to-face and online training for active listening skills. While the online delivery resulted in higher scores in satisfaction, perception of learning gains, and learning than did face-to-face students, as was the case for role play over lecture plus discussion only, an interaction was also observed in which the face-to-face without role play group scored significantly less than the other three groups in all outcome measures (Huerta-Wong & Schoech, 2010; Huerta-Wong, 2008). The other three groups did not differ.

3.3.1.7. Survey of the active listening literature.

3.3.1.7.1. Review of reviews and meta-analysis papers.

No literature reviews or meta-analyses on active listening skill were identified in the literature searches.

3.3.1.7.2. Meta-analysis candidate breakdown of coding by design.

Abstracts were reviewed to assess potential for inclusion in an active listening meta-analysis. Of the 110 abstracts (80 in EBSCO and 30 in DTIC) reviewed for experimental papers, 91 did not meet the criteria for a meta-analysis candidate. Overall, 19 candidate meta-analysis papers were identified. Results are shown in Table 8. Based solely on information in the abstracts, of those candidate papers, 6 (32%) were coded for posttest only and 11 (58%) for using a pretest and posttest (2 did not provide enough information to code for testing). With regard to experimental design, there were 5 studies (26%) that used a traditional no training control group and 4 studies (21%) used another form of training as a comparison group (2 did not provide enough information to code for design and 8 used a treatment only design). *Figure 1* shows the frequency distribution of publications over the past 5 decades; it would seem that popularity of empirical research on active listening training has steadily been on the rise over the past several decades.

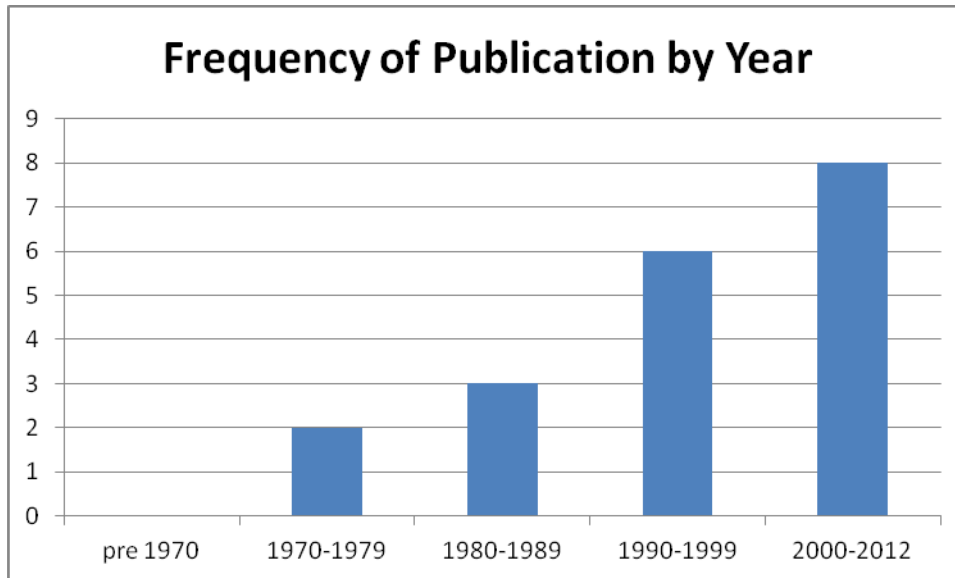


Figure 1. Histogram of active listening skill training publications

Of note here is that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 8. Active listening abstract coding, sorted by author

Study	Measurement: 0 - Not enough detail provided 1 - Posttest Only 2 - Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Behrs, D.G. (1995). <i>The effects of an active-listening training program on admissions counselors communication style</i> (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. 9509272)	2	3
Bronx Community College (1993). Workshops in the Workplace. Final Report. Office of Vocational and Adult Education (ED), Washington, DC.	1	1
Darsten, M., Lisper, H-O., & Sohlberg, S. (1979). Learning of active listening and a comparison between students in psychology and experienced psychologists' empathetic understanding. <i>Scandinavian Journal of Behaviour Therapy</i> , 8(1), pp. 13-21.	1	2
Feeney, M.C., & Davidson, J.A. (1996). Bridging the gap between the practical and the theoretical: An evaluation of a conflict resolution model. <i>Peace and Conflict: Journal of Peace Psychology</i> , Vol 2(3), 255-269.	1	3
Garland, D.R.(1981). Training Married Couples in Listening Skills: Effects on Behavior, Perceptual Accuracy and Marital Adjustment. <i>Family Relations</i> , 30(2), 297-306.	2	0
Huerta-Wong, J.E. (2008). Effects of experiential learning on face to face and multimedia learning environments in the acquisition of active listening skills. (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. 3289107)	2	2
Huerta-Wong, J.E., & Schoech, R. (2010). Experiential Learning and Learning Environments: The Case of Active Listening Skills. <i>Journal of Social Work Education</i> , 46(1), 85-101.	0	2
Lawrence, S.G. (1998). A principal's active listening skills and teachers' perceptions of the principal's leader behaviors (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. 9806492).	2	1
Levitt, D.H. (2001). Active listening and counselor self-efficacy: Emphasis on one microskill in beginning counselor training. <i>The Clinical Supervisor</i> , 20(2), pp. 101-115.	0	0
Lisper, H-O., Rautalinko, E. (1996). Effects of a six hour training of active listening [Exp #1]. <i>Scandinavian Journal of Behaviour Therapy</i> , 25(3-4), pp. 117-125.	1	2
Lisper, H-O., Rautalinko, E. (1996). Effects of a six hour training of active listening [Exp #2]. <i>Scandinavian Journal of Behaviour Therapy</i> , 25(3-4), pp. 117-125.	1	3

Table 8. (continued)

Olson, J.K., Iwasiw, C.L. (1987). Effects of a training model on active listening skills of post-RN students. <i>Journal of Nursing Education</i> , 26(3), 104-107.	2	1
Pedrini, D.T., Pedrini, B.C., Egnoski, E.J., Heater, J.D., & Nelson, M.D. (1976). PRE-, POST- AND FOLLOW-UP TESTING OF TEACHER EFFECTIVENESS TRAINING. <i>Education</i> , 96(3), 240-245.	2	1
Rapoport, L., & Perry K.N. (2000). Do dietitians feel that they have had adequate training in behaviour change methods? <i>Journal of Human Nutrition & Dietetics</i> , 13(4), 287-298	2	1
Rogers, A., & Welch, B. (2009) Using Standardized Clients in the Classroom: An Evaluation of a Training Module to Teach Active Listening Skills to Social Work Students. <i>Journal of Teaching in Social Work</i> , 29, 153-168.	1	1
Sabourin, S. (1987). Clinical validity and applied research: The case of a program for preventing marital problems. <i>Revue Québécoise de Psychologie</i> , 8(3), 49-63.	2	3
Saulo M., & Wagener, R.J. (2000). Mediation training enhances conflict management by healthcare personnel. <i>American Journal of Managed Care</i> , 6(4), 473-483	2	1
White, J.G., Krüger, C., & Snyman, W.D. (2008). Development and implementation of communication skills in dentistry: an example from South Africa. <i>European Journal of Dental Education</i> , 12(1), 29-34.	2	1
Wong, S.Y.S., Cheung, A.K.Y., Lee, A., Cheung, N., Leung, A., Wong, W., & Chan, K. (2007). Improving general practitioners' interviewing skills in managing patients with depression and anxiety: a randomized controlled clinical trial. <i>Medical Teacher</i> , 29(6), 175-183.	2	3

3.3.2. Nonverbal communication skill summary

Nonverbal communication is considered a sub-skill under the broader umbrella term *interpersonal communication skills along with* the sub-skills of oral communication, written communication, nonverbal communication, assertive communication, and active listening (Bowden et al., 2003; Green, 2010; Klein, 2009; Klein et al., 2006; Young & Murphy, 2003).

3.3.2.1. Nonverbal communication skill definition.

Nonverbal communication (NVC) is defined as the encoding and decoding of body language, postures, gestures, facial expressions, proximity, and other nonverbal behaviors/signals to enhance, reinforce, modify, or replace the verbal messages of an interpersonal communication (Bowden et al., 2003; Dyche, 2007; Greene & Burleson, 2003; Klein et al., 2006; Klinzing & Gerada-Aloisio, 2004a; O'Keefe, 2001; Rosenthal et al., 2009). While interpersonal communication in general can be conceptualized with informing and gathering roles in the exchange of information (Carpenter & Wisecarver, 2004), conceptualizations specific to NVC similarly make a sending and receiving distinction (Greene & Burleson, 2003).

In this summary, we make the distinction between the presentation and the reception of nonverbal cues. The nonverbal skill involved in the presentation of body language, postures, gestures, facial expressions, and other nonverbal behaviors/signals is often called nonverbal expression (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979; Burgoon & Baccue, 2003). Nonverbal expression is the process of using one's body, to present emotions to another person, such that the other person can correctly receive and understand one's emotions. It involves an individual's, "capacity to encode and express emotion and affect in ways that can be received and decoded correctly by others" (Burgoon & Baccue, 2003, p.181). The nonverbal skill involved in the interpretation of body language, postures, gestures, facial expressions, and other nonverbal behaviors/signals is called nonverbal interpretation (Rosenthal et al., 1979 ; Burgoon & Baccue, 2003). It involves an individual's "ability to decode emotion and affect accurately" (Burgoon & Baccue, 2003, p. 182).

3.3.2.2. Alternative labels for nonverbal communication skill.

Alternative skills labels encountered in the literature are presented below, broken down by nonverbal presentation and nonverbal interpretation.

- NVC expression
 - nonverbal expressivity (Klinzing & Gerada-Aloisio, 2004a; Greene & Burleson, 2003; Rosenthal et al., 1979; Burgoon & Baccue, 2003)
 - nonverbal encoding (Burgoon & Baccue, 2003; Greene & Burleson, 2003)
 - nonverbal sending ability (Greene & Burleson, 2003; Burgoon & Baccue, 2003)
- NVC interpretation
 - nonverbal interpretation (Burgoon & Baccue, 2003)
 - nonverbal sensitivity (Rosenthal et al., 1979; Greene & Burleson, 2003; Burgoon & Baccue, 2003; Klinzing & Gerada-Aloisio, 2004a)
 - nonverbal decoding (Burgoon & Baccue, 2003; Greene & Burleson, 2003; Klinzing & Gerada-Aloisio, 2004a)
 - nonverbal receiving ability (Greene & Burleson, 2003; Burgoon & Baccue, 2003)
 - emotion judgments (Elfenbein, 2006)

3.3.2.3. Background on nonverbal communication.

The field of nonverbal communication research started in the 19th century and many studies revolve around emotions (Friedman, 1979 as cited in Burgoon & Baccue, 2003, p. 181). The studies in this field have been conducted by researchers with a wide variety of backgrounds; psychology, social psychology, sociology, anthropology, marketing, business management, and education (Peterson, 2005; Klinzing & Gerada-Aloisio, 2004a).

Two newer areas of interest in the field of nonverbal communication are cross-cultural interaction and deception detection. Based on the initial search of the nonverbal communication training literature it appears that the connection between nonverbal communication and positive cross-cultural interactions was made as early as the 1960's. Brislin (1970) notes that research in

the field of nonverbal communication training and cross-cultural interaction was done in the mid-1960's and lists several studies dating 1964 to 1967 (p. 30). These early studies investigated the impact of cross-cultural training programs that used role-playing coupled with feedback on the weaker aspects of a trainee's verbal and nonverbal behavior (Brislin, 1970, p. 30). In the 1970's a strong interest in deception detection and nonverbal communication training arose, in particular Ekman and Friesen did a considerable amount of work during this time investigating the nonverbal cues indicative of deception (Ekman & Friesen, 1974; Rosenthal et al., 2009).

3.3.2.3.1. NVC expression.

From the abstracts reviewed herein, the presentation of nonverbal signals was discussed most frequently in the literature on training managers, cross-cultural interactions, training educators, and training medical personnel.

3.3.2.3.2. NVC interpretation.

The interpretation of nonverbal signals was discussed in many of the same fields that the presentation of nonverbal signals was discussed. In addition to the four fields mentioned above (management, cross-cultural interactions, education and the medical industry) the literature on interpretation of nonverbal signal frequently appears in literature on deception detection.

3.3.2.4. Nonverbal communication skill training methods.

3.3.2.4.1. NVC expression.

A small portion (35%) of the literature reviewed involved training nonverbal expression, or presentation skills. Within this small selection of papers a couple different training methods were investigated; including goal-orientated practice within a group environment with immediate feedback (Ishikawa, Hashimoto, Kinoshita, & Yano, 2010) and training sessions which multiple methods, study of written materials, lecture and role-playing (Peterson, 2005). In Klinzing and Gerada-Aloisio (2004) the authors reported, based on their own studies and extensive reviews of nonverbal encoding research, that the best programs for training nonverbal encoding involve a combination of techniques. They state that a program should include three or more the following elements: presentation of theoretical background knowledge (delivery methods includes lectures, reading, and group discussion), modeling or discrimination training, plenty of time for focused practice (where the NVC exposure is planned and variations are controlled), focused and intensive feedback (videotape recordings, trainer and peer observations, and group discussions) (Klinzing & Gerada-Aloisio, 2004a; p. 17, 23, & 24).

3.3.2.4.2. NVC interpretation.

The majority of the literature reviewed on interpretation of nonverbal signals involved practice with immediate feedback (Gillis, Bernieri, & Wooten (1995); Constanzo (1992) as cited in Rosenthal et al., 2009, p. 15). However, other training methods such as practice without feedback, group exercises and lectures were also discussed (deTruck, Harszlak, Bodhorn, &

Texter, (1990); Rosenthal et al., (1979) as cited in Rosenthal et al., 2009, p. 14). Practice typically involves the trainees being exposed to an image or video of an individual expressing an emotion via a facial expression gestures (Rosenthal et al., 2009). Generally a range of emotions is selected that is applicable to the domain in which the nonverbal cues are being taught. Emotions may be spontaneous or posed. Generally nonverbal cues are taught using facial expressions. When facial expressions are used it may be alone or coupled with gestures. A few studies and training programs investigated additional nonverbal cues such as body language, physical distance or gestures (Rosenthal et al., 2009).

Some of the training methods that have been studied in the nonverbal decoding community have produced mixed results. These training methods in questions include “assertiveness training, transcendental meditation, game-like exercises, traditional course work, sensitivity training, and encounter groups” (Rosenthal et al., 1979; Klinzing & Jackson, 1987; as cited in Klinzing & Gerada-Aloisio, 2004a, p. 6) and are collectively referred to as indirect training methods by Klinzing and Gerada-Aloisio (2004). Klinzing and Gerada-Aloisio (2004) report that some indirect training studies showed non-significant gains, while others showed negative results, and they concluded that the overall effectiveness of these types training methods are uncertain.

3.3.2.5. Nonverbal communication skill assessment and measurement methods.

3.3.2.5.1. NVC expression.

A few assessment methods were discussed in the literature reviewed on the presentation of nonverbal signals. One method involves recording an individual performing the task for which he was trained to use nonverbal communication and then having coders analyze the video for number and types of nonverbal encodings (Ishikawa et al., 2010). Another method of assessing nonverbal encoding training effectiveness is having the trainee try his new skills on a naïve subject and then interviewing the naïve subject on his reaction to the trainee’s communication skills. An example of this can be found in Peterson’s (2005) work on training students attending a personal selling class to use nonverbal communication in their sales pitches. At the end of the course each student was paired with a real retailer whom he had to try to persuade to attend a free “effective selling techniques” seminar. After the student’s sales pitch was completed the retailer was questioned about his intentions attending the seminar. The retailer’s intention of attendance rating was used to measure the student’s performance and the effective of the NVC training. Another example of measuring the effectiveness of nonverbal expression training can be found in the education field, where teachers are taught to use NVC in the classroom. In these cases pupil performance and attentiveness are used to measure the impact of NVC training on a teacher’s performance in the classroom (Klinzing and Gerada-Aloisio, 2004, p. 8).

3.3.2.5.2. NVC interpretation.

The majority of the literature reviewed on interpretation of nonverbal signals used standardized performance measures to assess an individual’s ability to interpret nonverbal signals (Burgoon & Bacue, 2003). For example, three standardized performance measures

found in the literature are the Interpersonal Perception Task (IPT) (Archer & Costanzo, 1988), the Profile of Nonverbal Sensitivity (PONS) (Rosenthal et al., 1979) and the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, Caruso, & Sitarenios, 2003). In general standardized performance tests involve presenting an individual with static images or video of an emotion being expressed and requiring a judgment of the emotion. Two other measures used for assessing nonverbal interpretation skills are individualized performance measures and self-report measures (Burgoon & Bacue, 2003). Burgoon and Bacue (2003) define individualized performance measures as an individual being recorded expressing an emotion, having a live interaction or performing a skill such as deception; this recording is then viewed by judges that rate the accuracy of the individual's performance. Self-report measures involve "participants assessing their own nonverbal abilities" (Burgoon & Bacue, 2003).

3.3.2.6. Summary of findings on nonverbal communication skill training.

The most successful form of NVC training was practice (Klinzing & Gerada-Aloisio, 2004a; Rosenthal et al., 2009). The NVC skill findings on presentation and interpretation of signals were consistent, with exception of whether or not feedback was given to the trainee. While some NVC interpretation studies suggest that performance improved when trainees were given ample opportunity to practice even in the absence of feedback (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979), others found that feedback was necessary for skill acquisition (Klinzing & Gerada-Aloisio, 2004a).

3.3.2.6.1. NVC expression.

Of the papers examining NVC expression the most effective training programs used a combination of training methods with the key element being practice with peers in a microteaching format, simulations of real situations in a laboratory or classroom setting, followed by "well considered feedback and reflection on the appropriate use of nonverbal presentation skills" (Klinzing & Gerada-Aloisio, 2004a, p. 12, 23). Even though Klinzing and Gerada-Aloisio (2004a) emphasized the importance of practice with peers they listed other training methods that an effective training program would include and they state that three or more of these should be included to enhance an individual's nonverbal encoding behavior; "presentation of theoretical background knowledge", "modeling/discrimination training", "sufficient opportunities for focused practice", and "focused, intensive feedback" (p. 17).

3.3.2.6.2. NVC interpretation.

Of the papers examining NVC interpretation, practice with or without feedback, not lectures, was the most commonly used training method and it was largely successful (Rosenthal et al., 2009). "Trainees will learn by practicing identifying the emotions represented in the NVC stimuli [image or video of individual expressing emotion] and through feedback on the accuracy of their assessments" (Rosenthal et al., 2009, p.15). Rosenthal and his fellow authors (2009) reported that diagnostic feedback proved to be more beneficial than conceptual feedback this is based on multiple training studies they reviewed (Beck & Feldman, 1989; Feldman, Philippot, & Custrini, 1992; Gilis, Bernieri, & Wooten, 1995).

3.3.2.7. Survey of the nonverbal communication literature.

3.3.2.7.1. Review of reviews and meta-analysis papers.

There was only one review paper identified during a separate literature review and meta-analysis search. The review was conducted by Gladstein (1974) and is titled, “Nonverbal Communication and Counseling/Psychotherapy: A Review”. During the search for meta-analysis candidates (described below), we found that several studies included extensive literature reviews and one of the studies cited meta-analyses that have been done in the field of nonverbal communication.

One literature review found while reviewing meta-analysis candidates, was reporting in “Training Soldiers to Decode Nonverbal Cues in Cross-Cultural Interactions” by Rosenthal, Wadsworth, Russell, Mathew, Elfenbein, Sanchez-Burks and Ruark (2009). Their review covered nonverbal communication literature from 1960’s through 2009, the review included some training studies. In their study, Klinzing and Gerada-Aloisio (2004) cited two separate meta-analyses that could be of potential interest. One of the meta-analyses mentioned was done by Klinzing and Tisher (1986; update, Klinzing, 1999; Klinzing & Gerada-Aloisio, 2004b) and it “integrated 39 studies on the effectiveness of training programs” (Klinzing & Gerada-Aloisio, 2004a; p. 16).

3.3.2.7.2. Meta-analysis candidate breakdown of coding by design.

Abstracts were reviewed to assess potential for inclusion in a nonverbal communication meta-analysis. Of the 437 abstracts (388 in EBSCO and 49 in DTIC) reviewed for experimental indicators, 24 candidate meta-analysis papers were identified. Results are shown in three separate tables. One table contains the coding for interpretation studies, the second table contains the coding for the presentation studies and the last table contains the studies that either studied both forms of NVC or there was not enough detail in the abstract to determine the particular form studied (Table 9, Table 10, and Table 11). Based solely on information in the abstract, it appeared that 7 papers used a posttest only assessment and 9 papers used a pretest and posttest assessment. With regards to experimental design, there were 9 studies that used a traditional no training control group and 5 studies used another form of training as a comparison group.

The abstracts were reviewed for the type of nonverbal skills studied: presentation, interpretation or both. It appeared that 6 papers examined NVC interpretation, 10 papers examined NVC presentation, and 3 studies examined both (presentation and interpretation). There were 5 papers for which it was unclear what form of nonverbal communication was studied based on the abstract. Figure 2 shows the frequency distribution of publications over the past 5 decades for NVC interpretation. Figure 3 shows the frequency distribution of publications over the past 5 decades for NVC presentation. Figure 4 shows the frequency distribution of publications over the past 5 decades for NVC studies that either examined both presentation and interpretation or there was not enough detail in the abstract to determine the form of NVC examined.

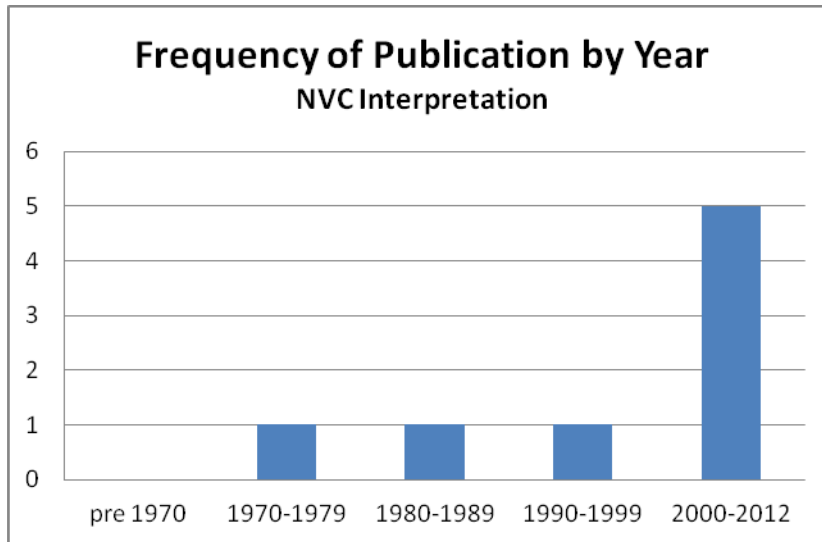


Figure 2. Histogram of nonverbal interpretation publications.

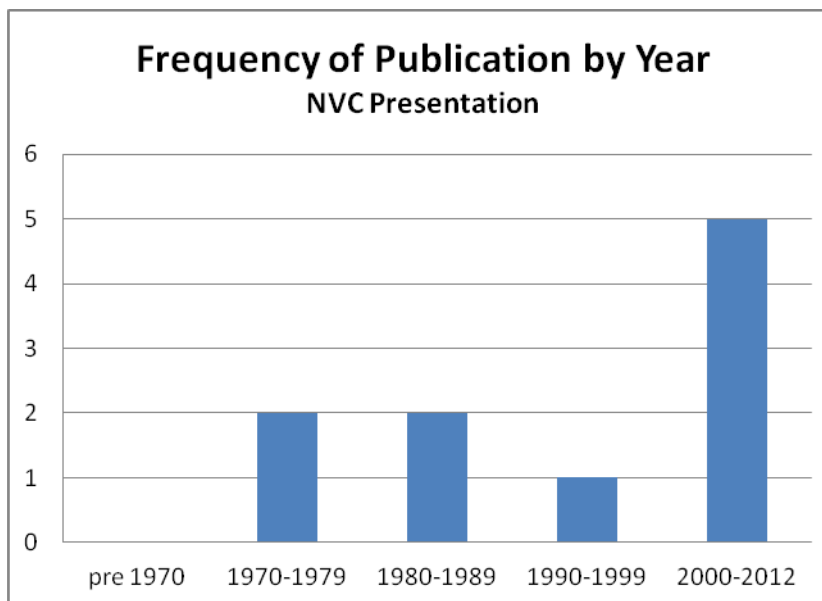


Figure 3. Histogram of nonverbal presentation publications

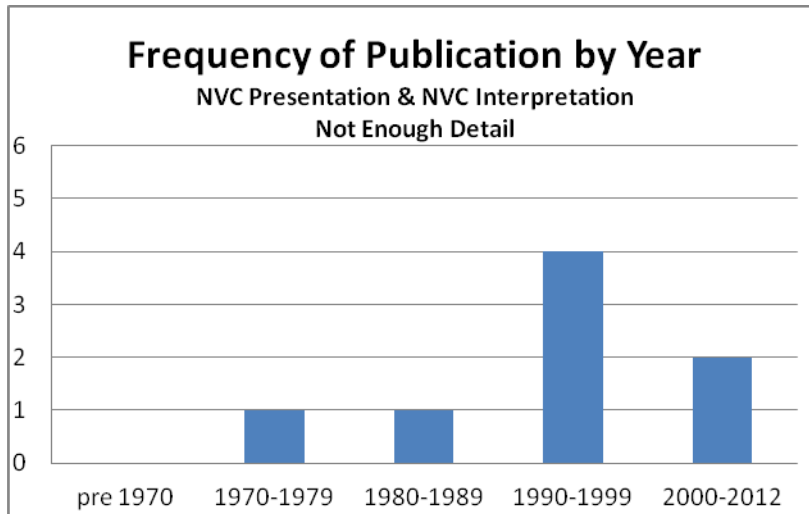


Figure 4. Histogram of publications for presentation/interpretation studies and studies for which not enough detail was provided.

Of note here is that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 9. Nonverbal communication abstract coding, for decoding/interpretation studies, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1 - Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Arnold, L., Calestro, K., Bates, W. J., & Wasserman, M. (1983). Teaching psychiatric interviewing as a core physician skill. <i>Journal of Psychiatric Education</i> , 7, 102-112.	2	3
Costanzo, M. & Claremont, M. (1992). Training students to decode verbal and nonverbal cues: Effects on confidence and performance. <i>Journal of Educational Psychology</i> , 84(3), 308-313.	2	3
Dziubinski, M. A. (2003). <i>Deception Detection in a Computer-Mediated Environment: Gender, Trust, and Training Issues</i> (Master's thesis). Air Force Institute of Technology, Wright Patterson Air Force Base, OH.	2	3
Elfenbein, H. A. (2006). Learning in emotion judgments: Training and the cross-cultural understanding of facial expressions. <i>Journal of Nonverbal Behavior</i> , 30(1), 21-36.	1	1
Lankowski, M. M. (2003). <i>Training Effects on Judgment Accuracy in a Computer-Mediated Environment</i> (Master's thesis). Air Force Institute of Technology, Wright Patterson Air Force Base, OH.	2	2
Levine, T. R., Feeley, T. H., McCormack, S. A., Hughes, M., & Harms, C. M. (2005). Testing the Effects of Nonverbal Behavior Training on Accuracy in Deception Detection with the Inclusion of a Bogus Training Control Group. <i>Western Journal of Communication</i> , 69(3), 203-217.	0	2
Lopez, M. A. (1979). <i>Recognizing Nonverbal Cues of Emotion: A Training Program for Mental Health Workers</i> . Paper presented at the Annual Convention of the Southeastern Psychological Association, New Orleans.	0	3

Table 10. Nonverbal communication abstract coding, for encoding/presentation studies, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1- Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Collett, P. (1971). Training Englishmen in the non-verbal behaviour of Arabs: An experiment on intercultural communication. <i>International Journal of Psychology</i> , 6(3), 209-215.	0	2
Cuny, X. (1972). Gestural commands: An experience with beginning foreign workers. <i>Bulletin de Psychologie</i> , 26(14-16), 847-852.	0	1
Elizur, D. (1987). Effect of feedback on verbal and non-verbal courtesy in a bank setting. <i>Applied Psychology: An International Review</i> , 36(2), 147-156.	1	1
Gazaille, M. (2011). Non-verbal communication training: An avenue for university professionalizing programs? <i>Education, Knowledge & Economy: A Journal for Education and Social Enterprise</i> , 4(3), 207-219.	0	0
Ishikawa, H., Hashimoto, H., Kinoshita, M., & Yano, E. (2010). Can nonverbal communication skills be taught? <i>Medical Teacher</i> , 32(10), 860-863.	1	2
Kindblom-Rising, K., Wahlström, R., & Stenström C. H. (2002). Effects of staff training in natural mobility: a long-term follow-up. <i>Advances in Physiotherapy</i> , 4(3), 136-144.	2	1
Klinzing, H. G. (1983). <i>Effects of a Training Program on Expressive Non-Verbal Behavior</i> . Paper presented at the Annual Meeting of the American Educational Research Association, Montreal. (ERIC Document Reproduction Service No. ED233999)	2	2
Peterson, R. T. (2005). An examination of the relative effectiveness of training in nonverbal communication: Personal selling implications. <i>Journal of Marketing Education</i> , 27(2), 143-150.	1	2
Sato, A. (1999). A study for developing a program for non-verbal communication skills training. <i>Japanese Journal of Counseling Science</i> , 32(2), 31-42.	1	3
Tuleja, E. A. & Roberts, E. (2011). An analysis of a communication training program for Chinese managers. <i>IEEE Transactions on Professional Communication</i> , 54(2), 185-200.	1	1

Table 11. Nonverbal communication abstract coding, for presentation/interpretation studies and studies for which not enough detail was provided in the abstracts to determine form of NVC, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1- Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Busher, L. A. (1994). <i>The effects of peer coaching of elementary school teachers</i> . Paper presented at the meeting of the Eastern Educational Research Association, Sarasota, FL. (ERIC Document Reproduction Service No. ED 367 616).	2	3
Dickson, D. & Mullan, T. (1990). An empirical investigation of the effects of a microcounselling programme with social work students: The acquisition and transfer of component skills. <i>Counseling Psychology Quarterly</i> , 3(3), 267-283.	2	1
Klinzing, H. G. & Gerada-Aloisio, B. (2004). <i>Intensity</i> ,	1	3

Table 11. (continued)

variety, and accuracy in nonverbal cues and de-/encoding: Two experimental investigations. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego.		
Klinzing, H. G. (1984). <i>The effects of nonverbal behavior training on teacher clarity, interest, assertiveness, and persuasiveness during microteaching</i> . Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans. (ERIC Document Reproduction Service No. ED252519)	0	0
Nodarse (2009). <i>A nonverbal approach to charismatic leadership training</i> (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. AAI 3384925)	2	3
Pretorius, H. G., Van Wyk, J. D., & Schepers, J. M. (1992). Die evalueren van n huweliksvoorbereidingsprogram. <i>South African Journal of Psychology</i> , 22(3), 140-146.	2	3
Santiago, E. D. (1992). <i>Culture; beyond Our Control, but Not beyond Our Awareness: A Staff Development Program</i> . Unpublished practicum paper, Nova Southeastern University, Fort Lauderdale, FL. (ERIC Document Reproduction Service No. ED353193)	2	1
Wise, P. S. (1979). A training model in consultation. <i>Psychology in the Schools</i> , 16(4), 515-519.	0	3

3.3.3. Assertive communication skill summary

Generally speaking, assertive communication is considered a sub-skill under the broader umbrella term *interpersonal communication skills*, an umbrella term typically used to encompass the sub-skills of oral communication, written communication, nonverbal communication, assertive communication, and active listening (Bowden et al., 2003; Green, 2010; Klein, 2009; Klein et al., 2006; Young & Murphy, 2003).

3.3.3.1. Assertive communication skill definition.

Assertive communication skill can be defined as the ability, willingness, and readiness to appropriately and succinctly express emotions, preferences, opinions, concerns, or needs positively, directly, and with self-confidence without being offensive or hostile during the social interaction towards the other person (Fye & Staton, 1981; Hoffman, 1999; Jones, 2009; Klein et al., 2006; Shatz, 1984). Underlying the goal state of assertive behavior is an emphasis on enabling an individual to stand up for one's rights and act in one's own best interests within an interpersonal interaction in a manner that does not demean the rights of others when those self rights and interests would otherwise not be considered (Hoffman, 1999; Jones, 1999; Klein, 2009; Klein et al., 2006; Shatz, 1984). Jones (1999) further bounds the definition in his distinction of assertive behavior from passive and aggressive behaviors:

It is important for assertive qualities to be distinguished from passive or aggressive methods ... Passive refers a failure to stand up for one's opinion or beliefs. Often passivity is a practice used when trying to avoid conflict or confrontation... Aggressiveness, on the other hand results in a disregard for other's opinions and input... A significant distinction between assertive and aggressive behavior is that aggressiveness can be overly dominant, intimidating and hostile. (Jones, 2009, pp. 17-18)

Klein et al. offers the following examples of the types of assertive behaviors aimed at proper expression towards standing up for one's rights/interests: "Proposing ideas; social assertiveness; defense of rights; directive; asserting your needs" (Klein et al., 2006, p. 85).

Several authors further characterize assertive communication by the dimensions or components of the skill. Hoffman defines three basic components of assertiveness:

1. The ability to express feelings (e.g., to accept and express anger, warmth, and sexual feelings)
2. The ability to express beliefs and thoughts openly (i.e., being able to voice opinions, disagree, and to take a definite stand, even if it is emotionally difficult to do and even if one has something to lose by doing so)
3. The ability to stand up for personal rights (i.e., not allowing others to bother you or take advantage of you). (Hoffman, 1999, p. 71)

Klein cites Lorr and More (1980) in his discussion of four primary dimensions of assertive communication:

1. Directiveness
2. Social assertiveness
3. Defense of interest
4. Independence (Lorr & More, 1980, as cited in Klein, 2009, p. 23)

Shatz (1984, pp. 10-11) cites numerous response patterns inherent to assertiveness (Lazarus, 1973; Galassi, DeLo, Galassi, & Bastine, 1974; O'Connor, 1969):

1. The ability to say no (Lazarus, 1973)
2. The ability to make requests (Lazarus, 1973)
3. The ability to express positive and negative feelings (Lazarus, 1973)
4. The ability to initiate, continue, and terminate general conversations (Lazarus, 1973)
5. The expression of feelings (Galassi et al., 1974)
6. The ability to initiate and maintain social interactions (O'Connor, 1969)

3.3.3.2. Alternative labels for assertive communication skill.

In an attempt to build a more comprehensive lexicon for identifying assertive communication skill in the literature, alternative skill labels observed in the literature reviewed for *assertive communication* were noted and are listed below. Related to training of assertive communication skill, Shatz identified assertion, assertiveness, and assertive as three of the most common labels of the training procedure for assertive communication skill with the most frequently used terms being assertion training or assertive training (Shatz, 1984).

- Assertion training (Piccinin, McCarrey, & Chislett, 1985; Shatz, 1984; Twentyman, Pharr, Connor, 1980).

- Assertiveness training (Alden, Safran, & Weideman, 1978; Nota & Soresi, 2003; Shatz, 1984)
- Assertive training (Brockway, 1976; Shatz, 1984; Winship & Kelley, 1976)
- Ascendant tendency: “referred to variously by such terms as ascendancy, assertiveness, dominance, and individual prominence. Although each of these terms refers to a slightly different aspect of the ascendant predisposition, there is enough commonality to consider them as a set . . .” (Shaw, 1971, as cited in Fujii, 1976, pp. 5-6).

3.3.3.3. Background on assertive communication.

Some sources (e.g., Shatz, 1984; Greene & Burleson, 2003) point to Wolpe’s work in the late 1950’s, 1960’s and 1970’s as the time period popularizing the idea of assertiveness and assertiveness training. There, the idea was to replace maladaptive behaviors, such as social anxiety, with more socially functional behaviors, such as being assertive. With its roots in the clinical work of behavioral therapy, assertiveness training was grounded in classical conditioning and operant learning models.

Shatz reported that assertiveness training had been explored therapeutically for areas that include social dating problems, nonassertive individuals, aggressive individuals, maladaptive behavioral patterns, handicapped persons, couples, gender equality, and nursing (Shatz, 1984). Across the current literature reviewed, this list of related areas can be expanded to include:

- Aviation (Jones, 2009)
- Education (Shatz, 1984)
- Leadership and HRD (Fujii, 1976)
- Management (Fye & Staton, 1981; Hoffman, 1999; Mullen, 1978)
- Personnel/team research (Smith-Jentsch, Salas, & Baker, 1996)
- Business negotiation (Ma & Jaeger, 2010)

3.3.3.4. Assertive communication skill training methods.

Assertiveness training generally targets both the verbal and nonverbal behaviors associated with communicating assertively within appropriate situations; an idea supported in the statement that “assertiveness is a multi-dimensional skill that individuals apply in a situation-specific manner” (Smith-Jentsch et al., 1996, p. 932). Variations of behavioral modeling training were the most predominant training programs observed in the literature reviewed, where, behavioral modeling training “typically consists of observing actual job incumbents, or videos of job incumbents, that demonstrate positive modeling behaviors, rehearsing the behavior using a role-play technique, receiving feedback on the rehearsal, and, finally, trying out the behavior on the job” (Klein et al., 2006, p. 110). Much like previously mentioned multi-method views of IPS training (e.g., Gilmore & Fritsch, 2001; Greene & Burleson, 2003), here, the literature further supports a multi-method view for assertiveness training as “a collection of behavioral and cognitive procedures that are designed to improve individuals’ social skills” (Shatz, 1984, p. 4).

In his meta-analysis, Shatz (1984) cites Rich and Schroeder's (1976) proposal that in order to be effective, assertiveness training programs must contain at least one procedure from each of the following five sets of training design elements: instructions and/or modeling; behavior rehearsal and/or covert rehearsal; video feedback, coaching, self-feedback, and/or group feedback; homework and/or bibliotherapy (reading material pertaining to assertiveness training); and some form of cognitive restructuring. Shatz explored the frequency of use of twelve specific assertiveness training methods including: instruction, live models, taped models, behavioral rehearsal, covert rehearsal, videotaped feedback, coaching, self-feedback, group feedback, cognitive restructuring strategies, homework, and bibliotherapy. Frequency analysis of the twelve training methods within therapeutic assertiveness training programs revealed four basic training method components as the most commonly applied methods: instructions, modeling, behavioral rehearsal, and coaching. Other less frequently used methods appearing in only about half of the studies examined included group feedback and homework assignments. Specifically, Shatz found that:

Therapists typically begin training by providing a general description of assertiveness and other response patterns (non-assertiveness and aggressiveness). Clients then might be asked to role-play a situation in which assertive responses are required. After the role-play scene, the therapist typically describes or models assertive responses. Clients practice these responses and their behavior is gradually shaped by the verbal reinforcement of the therapist. This pattern of training would be repeated until the client exhibits assertive behavior. (Shatz, 1984, p.65)

While behavioral modeling training might be thought of as an individual training technique, Shatz found that in therapeutic settings, even though it can be either individual or group, it is typically offered in groups settings. Smith-Jentsch, Salas, and Baker (1996) explored the efficacy of behavior role modeling to teach information about performance-related assertiveness in team environments such as industrial or professional settings. Their version of the group behavior role modeling program included lecture, videotaped work related scenarios with demonstration of passive and aggressive responses, practice role play, expert feedback on role play performance, and modeling of appropriate assertive responses. In addition, Jones (2009) describes the use of behavioral role modeling and simulation as means to train crews on "differences between passive, assertive, and aggressive [behaviors] and what situations are appropriate for each" (Jones, 2009, p. 18). Jones (2009) emphasizes the importance of appropriate assertive behavior in crew-based team environments where natural barriers to "proper assertiveness can include rank, gender, experience, or fear of reprisal" (Jones, 2009, p. 17). Citing Flin, O'Connor, and Crichton (2008), Jones notes that some aviation accidents, based on analysis of voice recordings, can be blamed on the co-pilot's lack of assertiveness in questioning the captain's decisions.

3.3.3.5. Assertive communication skill assessment and measurement methods.

In Shatz's meta-analysis he characterized two primary areas observed with which changes in assertive behavior can be assessed: self-reports and behavioral observations. Self-reports have respondents rate statements about assertive behaviors in a variety of relevant situations. Behavioral observation typically has participants engage in role-play situations with either live or video-taped confederates and respond as they would in real life. Verbal and nonverbal

behavioral responses are typically rated by an observer. In addition, behavioral observation can also include peer ratings of the trainee in real life situations outside of the training environment. (Shatz, 1984). This characterization of assessment - by collecting self-reports and behavioral observations - structures the remaining discussion on assertiveness assessment methods observed in the literature reviewed.

3.3.3.5.1. Self-reports.

In Smith-Jentsch et al. (1996) participants' assertiveness was assessed using the Lorr and More Assertiveness Inventory that assesses four dimensions of assertiveness: (a) Defense of interests – refusing unreasonable requests, and standing up for ones' rights; (b) Social assertiveness – behaviors associated with initiating and maintaining social relationships; (c) Independence – stating opinions and resisting individual or group pressure to conform; and (d) Directiveness – taking responsibility and initiating action. In their study of group assertive behaviors, Smith-Jentsch et al. (1996) had participants rate agreement with behavioral statements about themselves using a 6-point Likert scale (e.g., I nearly always argue for my viewpoint if I think I am right). Similarly, in their study of the relationship between cortisol levels and stress, Fye and Staton (1981) had participants rate behavioral statements about themselves on a 7-point Likert scale ranging from 1 – not at all to 7 – to a very great extent (e.g., To what extent are you able to speak up for your viewpoint when you differ with a person you respect?). Fye and Staton (1981) ran factor analysis on their assertiveness questionnaire items and identified six variables with high factor loadings:

(1) call it to someone's attention when that person is being unfair, (2) speak out in protest when someone takes his/her place in line, (3) call it to someone's attention that they are kicking his/her chair in a movie, (4) insist that his/her landlord make repairs that are the landlord's responsibility to make, (5) speak up for his/her viewpoint when they differ with a person that he/she respects, and (6) refuse unreasonable requests made by friends. (Fye & Staton, 1981, pp. 75-76)

Mullen (1978) points to the widely used sixteen factor personality questionnaire (16PF) as an assessment method for assertiveness. The 16PF is a dichotomous choice questionnaire that requires respondents categorically choose true or false answers to statements about daily real life behaviors. Specific to assertiveness, Mullen (1978) utilized factor E of the questionnaire to assess assertiveness. Factor E of the 16PF discriminates along a dimension anchored on one end by “humble” and the other by “assertive”. Low factor scores are associated with the following descriptive terms: Humble, mild, easily led, docile, and accommodating. High factor scores are associated with the following descriptive terms: Assertive, aggressive, competitive, and stubborn.

Another example of the self-report assertiveness assessment method is the Rathus-assertiveness schedule (RAS) highlighted by Ma and Jaeger (2010). Targeting general assertiveness and social boldness, Ma and Jaeger report the RAS to be a test that has “accumulated adequate data” (p. 339) to support its use. The RAS is a 30 item questionnaire with force choice ratings to behavioral statements (e.g., “I am open and frank about my feelings”) using a scale ranging from 3 – very much like me to -3 – very much unlike me, with no zero point.

3.3.3.5.2. *Behavioral observation.*

Assertive communication can also be assessed by trained experts watching live or video recorded role-play, or as mentioned previously, by peers involved in real life interactions with the subject. In addition to measuring self-report ratings, Smith-Jentsch et al. (1996) assessed participant assertiveness with subject matter experts. Here, the trained raters viewed videotape of five participant role-play scenarios; each scenario was scripted to target a specific element of assertive behavior. The raters scored use of the situation specific assertive behavior as excellent, average, or poor. The five situation specific scenarios required the following actions (Smith-Jentsch et al., 1996):

1. Letting the confederate know that his/her actions were making it difficult for the participant to complete his/her own tasks (*providing performance feedback to a team member*).
2. Confronting the fact that the confederate had made an incorrect turn, and to get him/her to turn back on course (*addressing perceived ambiguities and potential problems, offering backup or assistance when needed*).
3. Resisting pressure from the confederate to take action which contradicted the instructions given (*stating and maintaining opinions*).
4. Generating potential solutions to a decision-making problem, soliciting input from their indecisive confederate teammate, and finally taking responsibility for making the decision (*offering potential solutions, requesting assistance or backup when needed, initiating action*).

In Nota and Soresi (2003), participants participated in role-play scenarios in which they were instructed to behave naturally, acting and speaking as they would in a real life situation. Subject matter experts rated the videotaped role-play performances using a behavioral observation checklist of specific behaviors to ascertain participants' assertiveness, passiveness, or aggressiveness. All behaviors were scored as present or absent. Example assertive communication behaviors were: maintained eye contact while talking, speaking in a clear audible tone, expressed opinions in a clear direct way, etc. Example passive communication behaviors were: lowered glance so not to make eye contact, speaking in a low voice, stuttering or pausing excessively while expressing opinions, etc. Example aggressive communication behaviors were: speaking in a loud tone of voice, repeating requests over and over, telling the other what to do, etc.

3.3.3.6. *Summary of findings on assertive communication skill training.*

In his meta-analysis on assertiveness training, Shatz (1984) found that overall assertiveness training was effective, Glass' index = .74, when compared to a no training control group or placebo comparison group and concluded that assertiveness training was an effective procedure for increasing individuals' levels of assertiveness. Of particular relevance to the Army was the finding that of the adolescent, college student, and adult age groupings, the effect size for normal healthy college students was nearly twice the size of studies that used adolescents or adults. While the average effect size for self-report measures (Glass' index = .65) was less than

behavioral observation ratings (Glass' index = .8), the difference was not significant. On average trainees met for five-to-six sessions over a five-to-six week period for a total of eight-to-nine hours of assertiveness training, but there was no observed difference in effectiveness between sessions, period, and hours. No differences were found between individual or group training. Even though analysis of training programs revealed four core components to assertiveness training programs (instructions, modeling, behavioral rehearsal, and coaching), the effects sizes among the four core components were all positive and approximately equal to the overall effect size. Overall, none of the 12 training components significantly differed in the training effectiveness, nor did the response groupings predicted by Rich and Schroeder (1976).

While no support was found for one component over another, an important take away was not only that the components used in almost every study were instructions, modeling (with live models), behavioral rehearsal, and coaching, but, that these components generally comprise the training program known as behavioral modeling training or behavior role modeling (Klein, et al., 2006). The overall positive effect of assertiveness training with behavioral modeling components is a finding that has been reported consistently over the years for assertiveness training (Smith-Jentsch et al., 1996; Klein et al., 2006). More than 10 years after Shatz meta-analysis, Smith-Jentsch et al. (1996) found behavioral role-modeling to be the most effective training approach in their study on industrial training and selection for staffing in team positions. Here, three training groups were compared: behavioral role-modeling approach (i.e., lecture, demonstration, active practice, and feedback), lecture with demonstration, and lecture only. With regard to team performance related assertiveness, the behavioral role-modeling training resulted in an effect size of $d = .81$ compared to a control group. Performance gains of behavioral modeling was superior when compared to gains for lecture only ($d = .82$) and lecture with demonstration ($d = .73$).

Given the fairly conclusive research on the trainability of assertiveness, it is interesting to note the potential health benefits related to being assertive. Fye and Staton (1981) investigated the relationship between a person's level of assertiveness and their ability to cope with stressful situations by comparing scores on a self-report assertiveness questionnaire with measured cortisol levels and various forms of perceived stress. Findings indicate a negative relationship between assertiveness level and amount of perceived stress. An explanation is offered suggesting that more assertive individuals may tend to deal with stressors more directly than less assertive individuals resulting in less stress accumulation (Fye & Staton, 1981).

3.3.3.7. Survey of the assertive communication literature.

3.3.3.7.1. Review of reviews and candidate meta-analysis papers.

Three literature reviews and one meta-analysis on assertive communication skill were identified in the literature searches. The reviews spanned three decades with one in each of the 1980's, 1990's, and 2000's; however, two of the reviews were not electronically available in English. The single meta-analysis was from the 1980's.

Assertive communication literature reviews:

- Van Erven, T. (1980). Assertiveness: A review. *Tijdschrift voor Psychotherapie*, 6(1), 33-43.
- Rakos, R.F. (1991). *Assertive Behavior: Theory, Research, and Training*. Routledge, Chapman & Hall, New York.
- Watanabe, A. (2006). Theoretical Review of Assertiveness Inventories: Issues in the Measurement of Four Theoretical Dimensions. *Japanese Journal of Educational Psychology*, 54(3), 420-433.

Assertive communication meta-analyses:

- Shatz, M.A. (1984). *Assertiveness training: A meta-analysis of the research findings* (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. 8325006).

3.3.3.7.2. Meta-analysis candidate breakdown of coding by design.

Of the 1018 abstracts (902 in EBSCO and 116 in DTIC) reviewed for experimental papers, 919 did not meet the criteria for a meta-analysis candidate. Overall, 99 candidate meta-analysis papers were identified. Results are shown in Table 12. Based on information in the abstracts, of those candidate papers, 3 were coded for posttest only and 30 for using a pretest and posttest (66 did not provide enough information to code for testing). With regard to experimental design, there were 45 studies that used a traditional no training control group and 23 studies used another form of training as a comparison group (12 did not provide enough information to code for design and 19 used a one group treatment-only design). Figure 5 shows the frequency distribution of publications over the past 5 decades.

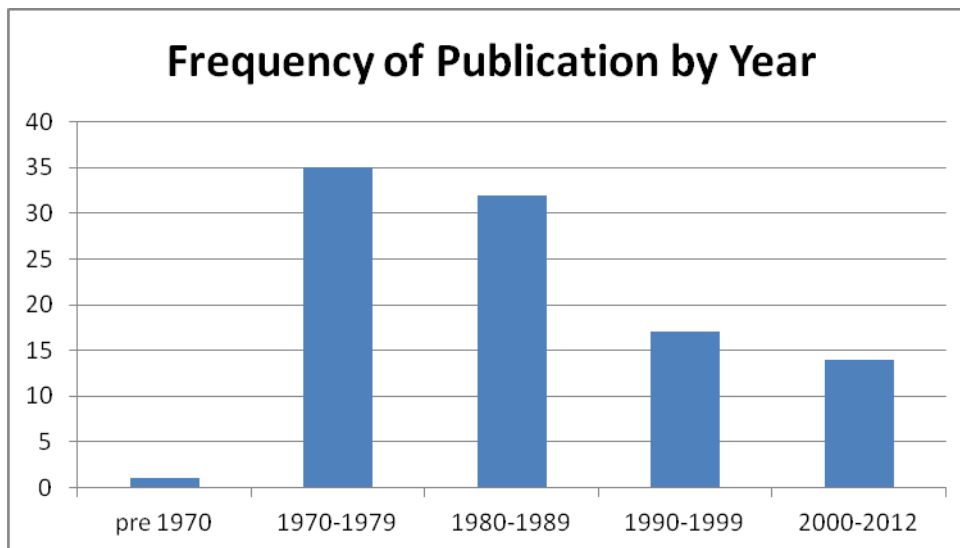


Figure 5. Histogram of assertive communication publications

Of note here is that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 12. Assertiveness training abstract coding, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1- Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Alden, L., Safran, J., & Weideman, R. (1978). A comparison of cognitive and skills training strategies in the treatment of unassertive clients. <i>Behavior Therapy</i> , 9(5), 843-846.	0	2
Arnold, B. R., & Parrott, R. (1978). Job interviewing: Stress-management and interpersonal-skills training for welfare-rehabilitation clients. <i>Rehabilitation Counseling Bulletin</i> , 22(1), 44-52.	0	1
Ashouri, A., Malayeri, M. T., & Fadee, Z. (2009). The effectiveness of assertive training group therapy in decreasing aggression and improving academic achievement in high school students. <i>Iranian Journal of Psychiatry and Clinical Psychology</i> , 14(4), 389-393.	0	3
Baggs, K., & Spence, S. H. (1990). Effectiveness of boost sessions on the maintenance and enhancement for treatment gains following assertion training. <i>Journal of Consulting and Clinical Psychology</i> , 58(6), 845-854.	2	3
Bander, R. S., Russel, R. K., & Weiskott, G. N. (1978). Effects of varying amounts of assertiveness training on level of assertiveness and anxiety reduction in women. <i>Psychological Reports</i> , 43(1), 144-146.	0	3
Barr, A. E. (1989). <i>The effect of assertiveness training on performance self-esteem and sex role in student nurses</i> (Doctoral dissertation). California School of Professional Psychology, Berkeley (UMI No. PUZ8926354).	2	0
Barrett, E. R., & Curtis, K. F. (1986). The effect of assertive discipline training on student teachers. <i>Teacher Education and Practice</i> , 3(1), 53-56.	0	3
Bayrami, M. (2011). Effect of assertiveness training on general health in first year students of Tabriz University. <i>Psychology Research</i> , 14(1), 47-64.	2	3
Beamish, P. M., & Marinelli, R. P. (1983). Manifest and latent power dimensions in power-base training for women: A prevention model. <i>American Mental Health Counselors Association Journal</i> , 5(2), 52-60.	0	0
Birkenbach, X. C. (1986). Self-report evaluations of training effectiveness: Measuring alpha, beta, and gamma change. <i>South African Journal of Psychology</i> , 16(1), 1-7.	2	0
Brecklin, L. R., & Ullman, S. E. (2005). Self-defense or assertiveness training and women's responses to sexual attacks. <i>Journal of Interpersonal Violence</i> , 20(6), 738-762.	0	0
Brockway, B. S. (1976). Assertive training for professional women. <i>Social Work</i> , 21(6), 498-505.	2	1
Cheek, F. E. (1973, December). <i>A behavior modification training program for staff working with drug addicts</i> . Paper presented at the Annual Meeting of the Association for the Advancement in Behavior Therapy, Miami, Florida.	0	1
Chiappone, D., McCarrey, M., Piccinin, S., & Schmidtgoessling, N. (1981). Relationship of client-perceived facilitative conditions on outcome of behaviorally oriented assertive training. <i>Psychological Reports</i> , 49(1), 251-256.	0	2
Cook, J. A., Jonikas, J. A., & Razzano, L. (1995). A randomized evaluation of consumer versus nonconsumer training of state mental health service providers. <i>Community Mental Health Journal</i> , 31(3), J229-238.	2	2
Cook, P. H. (1998). Coping resources for stress and assertiveness training for nurses. <i>Dissertation Abstracts International</i> , 59(10-A), 3843.	2	3
Deffenbacher, J. L., & Payne, D. M. (1977). Two procedures for relaxation as	0	3

Table 12. (continued)

self-control in the treatment of communication apprehension. <i>Journal of Counseling Psychology</i> , 24(3), 255-258.		
Deiter, P. J. (1995). Sexual assertiveness training for college women: An intervention study. <i>Dissertation Abstracts International</i> , 55(9-B), 4116.	2	3
DeLange, J. (1978, May). <i>A comparison of the effects of assertive skill training and desensitization in increasing assertion and reducing anxiety in groups of women</i> . Paper presented at the Meeting of the Midwestern Association of Behavior Analysis, Chicago, Illinois, May 13-16.	2	2
Demerouti, E., van Eeuwijk, E., Snelder, M. & Wild, U. (2011). Assessing the effects of a "personal effectiveness" training on psychological capital, assertiveness and self-awareness using self-other agreement. <i>Career Development International</i> , 16(1), 60-81.	2	0
Duffey, D. K., & Dowd, E. T. (1987). The effect of cognitive behavioral assertion training on aggressive individuals and their partners. <i>Southern Psychologist</i> , 3(1), 45-50.	0	3
Dunn, M., & Sommer, N. (1997). Managing difficult staff interactions: effectiveness of assertiveness training for SCI nursing staff... including commentary by Popovich J. <i>Rehabilitation Nursing</i> , 22(2), 82-87.	2	1
Epstein, N., Degiovanni, I. S., & Jayne-Lazarus, C. (1978). Assertion training for couples. <i>Journal of Behavior Therapy and Experimental Psychiatry</i> , 9(2), 149-155.	0	3
Ernst, J. M., & Hessacker, M. (1993). Application of the elaboration likelihood model of attitude change to assertion training. <i>Journal of Counseling Psychology</i> , 40(1), 37-45.	0	0
Flowers, J. V. (1978). Goal clarity as a component of assertive behavior and a result of assertion training. <i>Journal of Clinical Psychology</i> , 34(3), 744-747.	0	1
Flowers, J. V., & Goldman, R. D. (1976). Assertion training for mental health paraprofessionals. <i>Journal of Counseling Psychology</i> , 23(2), 147-150.	0	3
Freeman, L. H. (1992). <i>Effects of an assertiveness training program on nurses' perceptions of personal power and assertive behavior</i> (Doctoral dissertation). Indiana University School of Nursing, Indiana (UMI No. PUZ9316752).	0	2
Galassi, J. P., Kostka, M. P., & Galassi, M. D. (1975). Assertive training: A one year follow up. <i>Journal of Counseling Psychology</i> , 22(5), 451-452.	1	2
Gallagher-Thompson, D. & DeVries, H. M. (1994). "Coping with frustration" classes: Development and preliminary outcomes with women who care for relatives with dementia. <i>Gerontologist</i> , 34(4), 548-552.	0	1
Gelber, H. (1967). The use of psychological learning theory in the development of assertion. <i>The Canadian Psychiatric Association Journal</i> , 12(2), 207-208.	0	2
Gordon, S., & Waldo, M. (1984). The effects of assertiveness training on couples' relationships. <i>American Journal of Family Therapy</i> , 12(1), 73-77.	0	3
Gudermuth, S. (1984). Grundlagen von Trainingsmethoden und Ergebnisse der Behandlung von Selbstunsicherheit mit einem verhaltenstherapeutischen Gruppentraining (Fundamentals of training methods and results in the treatment of insecurity using behavior modification in group therapy). <i>Zeitschrift für Psychologie mit Zeitschrift für angewandte Psychologie</i> , 192(3), 319-337.	0	0
Gulanick, N. A., & Howard, G. S. (1979). Evaluation of a group program designed to increase androgyny in feminine women. <i>Sex Roles</i> , 5(6), 811-827.	0	3
Hammen, C. L., Jacobs, M., Mayol, A., & Cochran, S. D. (1980). Dysfunctional cognitions and the effectiveness of skills and cognitive behavioral assertion training. <i>Journal of Consulting and Clinical Psychology</i> , 48(6), 685-695.	0	2
Hammond, P. D., & Oei, T. P. (1982). Social skills training and cognitive restructuring with sexual unassertiveness in women. <i>Journal of Sex and Marital Therapy</i> , 8(4), 297-304.	0	3
Hedquist, F. J., & Weinhold, B. K. (1970). Behavioral group counseling with socially anxious and unassertive college students. <i>Journal of Counseling Psychology</i> , 17(3), 237-242.	0	3
Hijazi, A. M., Tavakoli, S., Slavin-Spenny, O. M., & Lumley, M. A. (2011). Targeting interventions: Moderators of the effects of expressive writing and assertiveness training on the adjustment of international university students. <i>International Journal for the Advancement of Counseling</i> , 33(2), 101-112.	0	2
Hill, E. H. (1977, August). <i>Development of an assertiveness training module for college-level instruction</i> . Paper presented at the annual convention of the American Psychological Association, San Francisco, CA.	2	3
Hong, K., & Cooker, P. G. (1984). Assertion training with Korean college students: Effects on self-expression and anxiety. <i>Personnel and Guidance Journal</i> , 62(6), 353-358.	0	3
Itoh, Y. (2003). A study of effects of assertion training of humanistic	2	2

Table 12. (continued)

psychological approach. <i>Japanese Journal of Health Psychology</i> , 16(1), 54-59.		
Jacobs, M. K., & Cochran, S. D. (1982). The effects of cognitive restructuring on assertive behavior. <i>Cognitive Therapy and Research</i> , 6(1), 63-76.	0	2
Kazdin, A. E. (1975). Covert modeling, imagery assessment, and assertive behavior. <i>Journal of Consulting and Clinical Psychology</i> , 43(5), 716-724.	0	3
Kidder, L. H., Boell, J. L., & Moyer, M. M. (1983). Rights consciousness and victimization prevention: Personal defense and assertiveness training. <i>Journal of Social Issues</i> , 39(2), 153-168.	0	1
Klinzing, H. G. (1984, April). <i>The effects of nonverbal behavior training on teacher clarity, interest, assertiveness, and persuasiveness during microteaching</i> . Paper presented at the 68th annual meeting of the American Educational Research Association, New Orleans, LA.	0	1
Kolotkin, R. A., & Wielkiewics, R. M. (1982, May). <i>The effects of assertive training on self-reported assertive ability, social skill knowledge, and social self-efficacy for trained and untrained spouses</i> . Paper presented at the 54th annual meeting of the Midwestern Psychological Association, Minneapolis, MN.	0	3
Kwiterovich, D. K., & Horan, J. J. (1977). Solomon evaluation of a commercial assertiveness program for women. <i>Behavior Therapy</i> , 8(3), 501-502.	2	1
Layne, R. G. (1977). Group assertiveness training for resident assistants. <i>Journal of College Student Personnel</i> , 18(5), 393-397.	0	1
Lee, C. (1983). Self-efficacy and behaviour as predictors of subsequent behaviour in an Assertiveness Training Programme. <i>Behaviour Research and Therapy</i> , 21(3), 225-232.	0	1
Lee, S. (1994). Effect of assertiveness training on levels of stress and assertiveness experienced by nurses in Taiwan, Republic of China. <i>Issues in Mental Health Nursing</i> , 15(4), 419-432.	2	3
Lewittes, H. J., & Bem, S. L. (1983). Training women to be more assertive in mixed-sex task-oriented discussions. <i>Sex Roles</i> , 9(5), 581-596.	2	0
Lin, Y., Shiah, I., Chang, Y., Lai, T., Wang, K., & Chou, K. (2004). Evaluation of an assertiveness training program on nursing and medical students' assertiveness, self-esteem, and interpersonal communication satisfaction. <i>Nurse Education Today</i> , 24(8), 656-665.	0	3
Linehan, M. M., Goldfried, M. R., & Goldfried, A. P. (1979). Assertion therapy: Skill training or cognitive restructuring. <i>Behavior Therapy</i> , 10(3), 372-388.	0	2
Linehan, M. M., Walker, R. O., Bronheim, S., Haynes, K. F., & Yevzeroff, H. (1979). Group versus individual assertion training. <i>Journal of Consulting and Clinical Psychology</i> , 47(5), 1000-1002.	0	3
Ma, Z., & Jaeger, A. M. (2010). A comparative study of the influence of assertiveness on negotiation outcomes in Canada and China. <i>Cross Cultural Management</i> , 17(4), 333-346.	0	1
Mahaffey, E. A. H. (1992). <i>Coping resources for stress and assertiveness training, previous nursing experience, race, and gender among traditional and non-traditional associate degree nursing students</i> (Doctoral dissertation). University of Southern Mississippi, Mississippi. (UMI No. PUZ9239407).	2	3
Markham, D. J. (1985). Behavioral rehearsals vs. group systematic desensitization in assertiveness training with women. <i>Academic Psychology Bulletin</i> , 7(2), 157-174.	0	3
Mazer, L. A. (1997). The effect of aggression on experienced self-efficacy in a women's self-defense training program. <i>Dissertation Abstracts International</i> , 58(3-B), 1514.	2	1
McClelland, G. K. (1992). A study of generalization and maintenance effects of assertion training with nurse managers (Doctoral dissertation). <i>ProQuest Dissertations & Theses Database</i> . (UMI No. PUZ9324516).	0	1
McFall, R. M., & Twentyman, C. T. (1973). Four experiments on the relative contributions of rehearsal, modeling, and coaching to assertion training. <i>Journal of Abnormal Psychology</i> , 81(3), 199-218.	0	2
McIntyre, T. J., Jeffrey, D., & McIntyre, S. L. (1984). Assertion training: The effectiveness of a comprehensive cognitive-behavioral treatment package with professional nurses. <i>Behavior Research and Therapy</i> , 22(3), 311-318.	2	3
Meehan, E. F., & Goldkopf, D. A. (1982). Effects of attitudinal restructuring on multifaceted assertiveness training for women. <i>Journal of Urban Psychiatry</i> , 2(1), 38-44.	0	1
Melnick, J., & Stocker, R. B. (1977). An experimental analysis of the behavioral rehearsal with feedback technique in assertiveness training. <i>Behavior Therapy</i> , 8(2), 222-228.	2	2
Meloy, J. R. (1980). The effect of assertiveness training on the personality construct extraversion. <i>Personality and Individual Differences</i> , 1(2), 176-177.	0	3

Table 12. (continued)

Nesbitt, E. B. (1981). Use of assertive training in teaching expression of positively assertive behavior. <i>Psychological Reports</i> , 49(1), 155-161.	2	3
Nota, L., & Soresi, S. (2003). An assertiveness training program for indecisive students attending an Italian university. <i>Career Development Quarterly</i> , 51(4), 322-334.	0	0
Pardeck, J. T., Anderson, C., Gianino, E. A., Miller, B., Mothershead, M. S., & Smith, S. A. (1991). Assertiveness of social work students. <i>Psychological Reports</i> , 69(2), 589-590.	0	0
Parker, P. J. (1973, April). <i>The systematic desensitization of high debilitating test anxious college students by relaxation and assertion</i> . Paper presented at the Southwestern Psychological Association Meeting, San Antonio, Texas.	2	2
Perkins, R. J. (1983). Effect of paraprofessional-led assertiveness training on levels of assertiveness and self-actualization. <i>Journal of College Student Personnel</i> , 24(1), 61-66.	0	3
Piccinin, S., McCarrey, M., & Chislett, L. (1985). Assertion training outcome and generalization effects under didactic vs. facilitative training conditions. <i>Journal of Clinical Psychology</i> , 41(6), 753-762.	2	3
Rakos, R. F. & Schroeder, H. E. (1979). Development and empirical evaluation of a self-administered assertiveness training program. <i>Journal of Consulting and Clinical Psychology</i> , 47(5), 991-993.	0	3
Ramirez, J. & Winer, J. L. (1983). Counselor assertiveness and therapeutic effectiveness in treating depression. <i>Personnel and Guidance Journal</i> , 62(3), 167-170.	0	0
Rijken, H., & de Wildt, A. (1978). Structured therapy groups for women with social/assertiveness problems. <i>Tijdschrift voor Psychotherapie</i> , 4(4), 155-163.	0	1
Rimm, D. C., Hill, G. A., Brown, N. N., & Stuart, J. E. (1974). Group assertive training in treatment of expression of inappropriate anger. <i>Psychological Reports</i> , 34(3), 791-798.	0	3
Rosenthal, T. L., & Reese, S. L. (1976). The effects of covert and overt modeling on assertive behavior. <i>Behaviour Research and Therapy</i> , 14(6), 463-469.	0	3
Sayre, M. M. (2010). <i>Improving collaboration and patient safety by encouraging nurses to speak-up: Overcoming personal and organizational obstacles through self-reflection and collaboration</i> (Doctoral Dissertation). University of California, Los Angeles (UMI No. AAI3424188).	1	3
Schindler, F. (1979, April). <i>Behavioral bibliotherapy: An evaluation of a self-help book</i> . Paper presented at the annual meeting of the Western Psychological Association, San Diego, CA.	0	3
Schmidman, R. E., & Layne, C. (1980, March). <i>A multi-modal assessment of didactic versus rehearsal group assertion training</i> . Paper presented at the Annual Meeting of the Southeastern Psychological Association, Washington, DC, March 26-29.	0	2
Schulman, J. A., & Bailey, K. G. (1983). An information feedback program for the development of assertive behavior. <i>Psychotherapy: Theory Research & Practice</i> , 20(2), 220-231.	0	2
Sherman, R. E., Lojkutz, S., & Rusch, L. (1984). An evaluation of the ADE Program: A teacher training strategy in alcohol and drug education. <i>Journal of Alcohol and Drug Education</i> , 30(1), 66-76.	0	1
Simpson Rowe, L., Jouriles, E. N., McDonald, R., Platt, C. G., & Gomez, G. S. (2012). Enhancing a women's resistance to sexual coercion: A randomized controlled trial of the DATE program. <i>Journal of American College Health</i> , 60(3), 211-218.	0	3
Smith, M. G. (1985). The use of hypnosis to accelerate assertiveness training. <i>Australian Journal of Clinical Hypnotherapy and Hypnosis</i> , 6(2), 99-107.	0	2
Smith-Jentsch, K. A., Salas, E., & Baker, D. P. (1996). Training team performance-related assertiveness. <i>Personnel Psychology</i> , 49(4), 903-936.	1	3
Tavakoli-Moayed, S. (2008). Effects of expressive writing and assertiveness training on international students' acculturative stress, health, and affect. <i>Dissertation Abstracts International</i> , 69(3-A), 887.	2	3
Terfloth, I., & Rackensperger, W. (1975). Study of efficacy of training emotional behavior in groups. <i>Archiv fur Psychiatry & Neurological Sciences</i> , 220(3), 237-243.	0	3
Turner, S. M., & Adams, H. E. (1977). Effects of assertive training on three dimensions of assertiveness. <i>Behavior Research and Therapy</i> , 15(6), 475-483.	0	3
Twentyman, C. T., Gibralter, J. C., & Inz, J. M. (1979). Multimodal assessment of rehearsal treatments in an assertion training program. <i>Journal of Counseling Psychology</i> , 26(5), 385-389.	0	0
Twentyman, C. T., Pharr, D. R., & Connor, J. M. (1980). A comparison of three	2	2

covert assertion training procedures. <i>Journal of Clinical Psychology</i> , 36(2), 520-525.		
Van Sickel, D. J. (1977, April). <i>Anxiety and assertive training: A program evaluation and therapy outcome study</i> . Paper presented at the Annual Meeting of the Western Psychological Association, Seattle, Washington.	0	3
Weiskott, G. N. & Cleland, C. C. (1977). Assertiveness, territoriality, and personal space behavior as a function of group assertion training. <i>Journal of Counseling Psychology</i> , 24(2), 111-117.	0	3
Werner, J. M., O'Leary-Kelly, A. M., Baldwin, T. T., & Wexley, K. N. (1994). Augmenting behavior-modeling training: Testing the effects of pre- and post-training interventions. <i>Human Resource Development Quarterly</i> , 5(2), 169-183.	2	2
Williams, J. M., Hadden, K., & Marcavage, E. (1983). Experimental study of assertion training as a drug prevention strategy for use with college students. <i>Journal of College Student Personnel</i> , 24(3), 201-206.	2	3
Winship, B. J., & Kelley, J. D. (1976). A verbal response model of assertiveness. <i>Journal of Counseling Psychology</i> , 23(3), 215-220.	0	2
Wolff, J., & Desiderato, O. (1980). Transfer of assertion-training effects to roommates of program participants. <i>Journal of Counseling Psychology</i> , 27(5), 484-491.	0	3
Wood, S., Hodges, C., & Aljunied, M. (1996). The effectiveness of assertive discipline training: Look before you leap off this wagon. <i>Educational Psychology in Practice</i> , 12(3), 175-181.	0	1
Yamagashi, M., Kobayashi, T., Kobayashi, T., Nagami, M., Shimazu, A., & Kageyama, T. (2007). Effect of web-based assertion training for stress management of Japanese nurses. <i>Journal of Nursing Management</i> , 15(6), 603-607.	2	1
Ybarra, S. K. (1995). Effects of assertiveness training and HIV education on safer sexual behavior for women at risk for the Human Immunodeficiency Virus. <i>Dissertation Abstracts International</i> , 55(8-B), 3575.	2	3
Young, E. R., Rimm, D. C., & Kennedy, T. D., (1973). An experimental investigation of modeling and verbal reinforcement in the modification of assertive behavior. <i>Behaviour Research and Therapy</i> , 11(3), 317-319.	0	2
Zhou, S., Hou, Z., & Bai, R. (2008). Effect of group assertiveness training on university students' assertive competence. <i>Chinese Journal of Clinical Psychology</i> , 16(6), 665-667.	2	3
Zielinski, J. J., & Williams, L. J. (1979). Covert modeling vs. behavior rehearsal in the training and generalization of assertive behaviors: A crossover design. <i>Journal of Clinical Psychology</i> , 35(4), 855-863.	0	2

3.3.4. Relationship building skill summary

Relationship building is a common theme interwoven throughout the interpersonal skills literature and research (Bowden et al., 2003; Carpenter et al., 2004; Klein et al., 2006; Schlundt, Quesenberry, Pichert, & Lorenz, 1994). The interpersonal skill taxonomy presented in this report has relationship building as one of the four main skill categories in the taxonomy synthesis. Relationship building is a category under which more specific skills can be placed. Under relationship building there are eight sub-skills: team cooperation, courtesy, amicability, trust, dependability, intercultural/interpersonal sensitivity, service orientation and conflict resolution, and negotiation (Bowden et al., 2003; Carpenter et al., 2004; Klein et al., 2006; Schlundt et al., 1994).

3.3.4.1. Relationship building skill definition.

Relationship building within the workplace can be defined as, “developing bonds with persons relevant to your work in order to access resources that are helpful for job performance” (Carpenter & Wisecarver, 2004). In Carpenter and Wisecarver’s (2004) model of interpersonal skills there are three sub-skills classified under relationship building: demonstrating courtesy,

helping and supporting others, and networking (p. 13). In an early review of the interpersonal skills literature, Schlundt, Quesenberry, Pichert and Lorenz (1994) created a framework in which they used relationship building as a high level category containing four lower level skills: negotiation, empathy and understanding, nonverbal behavior, and respect (p. 166).

In 2003, Bowden, Laux, Keenan and Knapp, reviewed the interpersonal skills literature and research in an effort to identify and assess interpersonal knowledge, skills, and attributes (KSAs) that would be need by the Objective Force Solider (p. 1). They identified building and maintaining relationships as a major theme of interest for the Army and they defined it as, “relating to and supporting others, agreeableness, concern for Soldier quality of life, cultural tolerance, and conflict management” (Bowden et al., 2003, p. 1). In the interpersonal skills work done by Klein, DeRouin and Salas (2006), relationship building is referred to as a theme and is defined as the group of skills that “are important for all employees seeking to develop and foster relationships with others” (p. 82, 102). Within their taxonomy Klein et al. (2006) placed seven common workplace skills under relationship building: cooperation and coordination; trust; intercultural sensitivity; service orientation; self-presentation; social influence; and conflict resolution and negotiation (p. 86).

3.3.4.2. Alternative labels for relationship building skill.

In an attempt to build a more comprehensive lexicon for identifying relationship building in the literature, alternative skill labels observed in the literature reviewed for *relationship building* are noted below:

- Maintaining relationships (Carpenter & Wisecarver, 2004; Bowden et al., 2003)
- Developing rapport (Logan, 2001)
- Working alliance (Logan, 2001)
- Relational development (Logan, 2001)
- Affiliation (Logan, 2001)
- Consensus building (Cianciolo & DeConstanza, 2010)

3.3.4.3. Background on relationship building.

No prior literature reviews or meta-analysis were found to support a summary of the literature and the history of relationship building research. A small number of meta-analysis candidates were found in this initial search of IPS literature. These candidate studies come from a wide variety of fields, a few include: medical, counseling, law enforcement, education, military and sales personnel.

3.3.4.4. Relationship building skills training methods.

Since no prior literature reviews or meta-analyses for relationship building training were discovered, a couple of the meta-analysis candidate studies were reviewed more closely to attain insight into how relationship building is trained. Both studies selected for review involved the authors developing a training program followed by testing the effectiveness of the training

program. Schlundt, Quesenberry, Pichert and Lorenz (1994), developed a training course to improve counseling skills of health care professionals and one of the four skills their training course focused on was relationship building. Prior to developing their course they reviewed literature from various medical fields, “medical education, psychotherapy, counseling, and medical adherence” (Schlundt et al., 1994, p. 166). Based on their findings, three different methods were incorporated into their course: demonstration, practice and feedback:

Each topic was presented and demonstrated by faculty using discussion and videotaped examples. Trainees then participated in a variety of practice exercises, both with and without videotaping. For example, participants practiced diagnosing obstacles to adherence by interviewing a nonadherent surrogate patient while being videotaped. Following each role-play, participants received feedback on their performance from the group leaders and other participants. (Schlundt, et al., 1994, p. 168)

In the other study reviewed, Durlach, Wansbury and Wilkinson (2008), developed a training program to teach Soldiers four different negotiation strategies, one of which was relationship-building. Their system called BiLAT, a scenario-based training system, allows the trainee to practice his negotiation skills with simulated characters within realistic scenarios and the trainee is provided with automated coaching and post-mission feedback (Durlach et al., 2008). Only one of the studies reviewed incorporated demonstration into their training, while the other one relied on learning from an automated coaching system (Schlundt et al., 1994; Durlach et al., 2008). While both programs reviewed chose to use practice and feedback, the delivery methods were different. In the first program, practice was in the form of live role-play and feedback was provided by peers and trainers (Schlundt et al., 1994). In the second program, practice was provided by simulated characters in an environment similar to a computer-game and all coaching and feedback were automated (Durlach et al., 2008).

3.3.4.5. Relationship building skill assessment and measurement methods.

In their review of the medical literature, Schlundt, Quesenberry, Pichert and Lorenz (1994), decided that the best way to measure the effectiveness of their counseling course, which taught relationship building, was to use “direct observational methods” (p. 166). They developed their own scoring system using behavior observation checklists.

The level of skill was quantified using either simple judgments of presence or absence, ratings of appropriateness, or frequency counts to assign numerical scores. Observable behaviors were scored and these scores combined to form skill scores. Behaviors that were desirable (e.g. politeness) contributed to higher skill scores. Negative or distracting behaviors (e.g. interrupting) were weighted negatively and lowered the overall skill scores (Schlundt et al., 1994, p. 167).

In the second study reviewed, Durlach, Wansbury, and Wilkinson (2008), the authors also decided to develop their own assessment using a situation judgment test.

The assessment used a variation of a Situational Judgment Test (SJT). SJTs are often used for personnel selection and prediction of job performance (O’Connell, Hartman, McDaniel, Grubb, & Lawrence, 2007). SJT items typically begin with a brief scenario which is then followed by several statements representing potential interpretations, responses, or actions to the SJT scenario. A respondent must judge the appropriateness of the statements as related to the scenario. The statements do not necessarily have objective, correct or incorrect answers; rather responses indicate a pattern of judgment. To score the test, an individual’s pattern is compared

to normative patterns collected from groups with known characteristics (e.g., experts vs. novices, or leaders vs. followers). The respondent's "score" is determined by the degree to which their pattern conforms to the normative pattern from the "desirable group." (Durlach et al., 2008, p. 4)

It is not clear, due to the lack of prior relationship building training literature reviews, whether or not there are standard assessments used to assess relationship building skills. Both of the studies reviewed chose to develop customized assessments to measure trainee performance and the effectiveness of their training courses.

3.3.4.6. Summary of findings on relationship building skill training.

Both programs reviewed tested the effectiveness of their training courses in uncontrolled trials. Both found that their training programs provided improvement in relationship building skills by the end of the course (Schlundt et al., 1994; Durlach et al., 2008). There is no indication in either report if the improvements are long term or if the trainees were able to transfer their newly found skills to their on-the-job performance.

3.3.4.7. Survey of the relationship building literature.

3.3.4.7.1. Review of reviews and meta-analysis papers.

The results of the search for relationship building specific literature and research were sparse. There were no relationship building literature review and meta-analysis papers identified. The lack of relevant studies could be an indication that either more research should be done on the higher level relationship building skill or that research should focus on the specific sub-skills, not on this broader skill (Klein et al., 2006, p.109).

3.3.4.7.2. Meta-analysis candidate breakdown of coding by design.

Of the 135 abstracts (112 in EBSCO and 23 in DTIC) reviewed for experimental papers, 125 did not meet the criteria for a meta-analysis candidate. Overall, 10 candidate meta-analysis papers were identified. Results are shown in Table 13. Four candidate studies used a pretest/posttest assessment and a single study used a posttest only assessment. There were seven studies for which the experiment designs included a treatment group only and a single study that used a no training control group. The remaining abstracts did not contain enough experimentation detail to determine assessment and experiment design. A single candidate paper was published between 1990 and 1999, the other 9 papers were published between 2000 and today (see Figure 6).

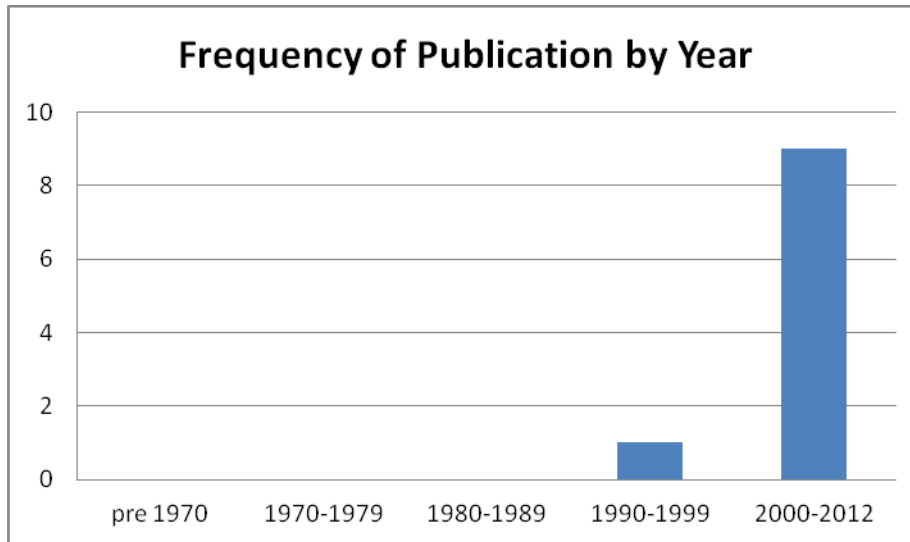


Figure 6. Histogram of relationship building publications.

Of note here is that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 13. Relationship building abstract coding, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1 - Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Berman, K. & Allen, L. (2012). Deepening students' understanding of democratic citizenship through arts-based approaches to experiential service learning. <i>South African Review of Sociology</i> , 43(2), 76-88.	0	1
Cumow, C., Mulvaney, R., Calderon, R., Weingart, E., Nicely, K., Keller-Glaze, H., & Fallesen, J. (2006). <i>Advanced Learning Theories Applied to Leadership Development</i> . (Technical Report 2006-2). Fort Leavenworth, KS: Center for Army Leadership.	2	1
Durlach, P. J., Wansbury, T. G., & Wilkinson, J. G. (2008). Cultural awareness and negotiation skills training: Evaluation of a prototype semi-immersive system. Paper presented at the Army Science Conference, Orlando, FL.	2	1
Flores, P.A. (2007). <i>'It opened my eyes': How service-learning impacts preservice teachers' beliefs and attitudes about culturally diverse students</i> . (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. AAI3259946)	1	3
Loe, S. A., Jones, W. P., Crank, J. N., & Krach, S.K. (2009). Using self-instruction to teach counseling skills to school psychology students: an efficacy study. <i>Journal of Instructional Psychology</i> , 36(1), 35-48.	2	1
Meffe, F., Moravar, C. C., & Espin, S. (2012). An interprofessional education pilot program in maternity care: Findings from an exploratory case study of undergraduate students. <i>Journal of Interprofessional Care</i> , 26(3), 183-188.	0	1

Table 13. (continued)

Muth, A. B. (2005). <i>Opportunities for deer lodge, Tennessee: Community development and land stewardship by a collaborative learning community group</i> . (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. AAI3148304)	0	0
Pelham, A. (2006). Do consulting-oriented sales management programs impact salesforce performance and profit? <i>Journal of Business & Industrial Marketing</i> , 21(3), 175-188.	0	0
Petty, B. D. (2010). Developing the art of becoming a couple: A grounded theory study of the positive influence of "Married and Loving It!"[R]. <i>Qualitative Report</i> , 15(5), 1080-1101.	0	1
Schlundt, D. G., Quesenberry, L., Pichert, J. W., & Lorenz, R. A. (1994). Evaluation of a training program for improving adherence promotion skills. <i>Patient Education and Counseling</i> , 24(2), 165-173.	2	1

3.3.5. Negotiation skill summary.

In most taxonomies considered in the current review, negotiation skill is considered a sub-skill under the broader umbrella term of *relationship building skill* or paired with *conflict resolution*, another relationship building sub-skill (Klein et al., 2006). However, broadly defined negotiation is characterized by interdependence between individuals, typical two or more parties, who must manage that interdependence and work with one another to resolve conflicting goals (Gelfand, 2008; Zetik & Stuhlmacher, 2002).

Greene and Burleson (2003) offer a thorough definition of negotiation skill and make the useful distinction of negotiation skill from other related social skills such as persuasion, argumentation, compliance gaining, conflict management, and group decision making.

In negotiation, parties exchange proposals, explore and define issues, and conceal weaknesses in their position while revealing options, whereas in persuasion, one party is trying to get the other party to do something he or she would not ordinarily do.

In argumentation, parties assert claims, and support these claims with evidence and reasoning... Negotiation employs persuasion and argumentation, but it extends beyond these arenas to create and manage exchanges, deal with mixed-motive interaction, and formulate acceptable solutions.

In a like manner, negotiation differs from compliance gaining, a process that employs persuasion and influence strategies. Even though tactics such as threats and promises are used in both arenas, negotiation interaction entails unique processes such as issue development and developing creative solutions that move beyond tactical and persuasive appeals.

In some ways, negotiation resembles group decision making in that persuasion and argumentation are communicative activities that occur within the deliberation process of group members. Negotiation differs from group problem solving in that, to maximize self-interests or joint gain, disputants develop preset proposals before they enter the process. Hence, both negotiation and group decision making employ exploratory problem solving, but negotiation searches for an acceptable agreement through making concessions and exploring options in a mixed-motive environment.

Finally, negotiation resembles conflict management; in fact, bargaining is a way to manage incompatibilities through finding mutually acceptable solutions. Thus, negotiation parallels a classic style of conflict management, compromise, as a way to uncover options, reframe the situation, and explore potential settlements... In summary, negotiation is a unique form of social interaction—one that is rooted in managing conflict and addressing perceived incompatibilities. Its mixed-motive nature, concern for constituents' interests

and positions, and activity of exchanging proposals and counterproposals make it a unique arena of social interaction. (Greene & Burleson, 2003, pp. 803-804)

3.3.5.1. *Negotiation skill definition.*

As a process, “negotiating refers to the use of bargaining to resolve conflict or the bringing out of a solution through discussion and compromise. It can include resolving disputes with unions, customers, suppliers, consultants, peers, supervisors, or subordinates” (Carpenter & Wisecarver, 2004, p. 8). Negotiation is a “communication-based activity” (Greene & Burleson, 2003, p. 803) where both sides endeavor to come to terms, build understanding, achieve consensus, reach agreement, form contracts, and resolve conflict. Critical to this *communication-based activity* is moderation of current behaviors based on the understanding of mutual interdependence both now and in the future. That is, both sides understand that they: (a) have an immediate dependence upon each other to achieve divergent goals while competing for resources, and (b) that once the current negotiation is complete they may still have an enduring interdependence through ongoing future interactions (Greene, 2010; Greene & Burleson, 2003; Montgomery, 2007).

Negotiation skills “refer to a subset of knowledge and behaviors that influence bargaining performance...these skills are effective when they achieve negotiation goals or when they grow out of an understanding of the process that surpasses minimal performance” (Greene & Burleson, 2003, p. 801). Described as a form of directing behavior, Carpenter and Wisecarver (2004) offer examples of negotiation behaviors as “mediation, breaking a deadlock through negotiation, conflict handling, obtain group consensus” (p. 13). Klein, DeRouin, and Salas (2006) provide the further examples of “conflict-handling style; conflict management; conflict prevention; compromising; problem solving; integrative bargaining; principled negotiation; cultural negotiation; mediation” (p. 86). At its simplest, negotiation is “a basic means of getting what you want from others. It is back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed (as well as some that may simply be different)” (Fisher, Ury, & Patton, 1991, p. i). The outcome of a negotiation should be efficient, result in a sensible agreement, and improve the relationship between both sides (Klein et al., 2006).

3.3.5.2. *Alternative labels for negotiation skill.*

In an attempt to build a more comprehensive lexicon for identifying negotiation skill in the literature, alternative skill labels observed in the literature reviewed for *negotiation* were noted and are listed below.

- Bargaining (Carpenter & Wisecarver, 2004; Klein et al., 2006)
- Mediation (Carpenter & Wisecarver, 2004; Klein et al., 2006)
- Distinct from, but related to persuasion, argumentation, compliance gaining, conflict management, and group decision making (Greene & Burleson, 2003).

3.3.5.3. *Background on negotiation.*

Tsay and Bazerman (2009) describe two significant shifts in research on negotiation, the first shift came in the 1980's and the second around the turn of the century. Prior to the 1980's, the majority of negotiation research was framed by a game theory perspective that assumed "impeccably rational, supersmart people" (Raiffa, 1982 as cited in Tsay & Bazerman, 2009, p. 2). Raiffa offered an alternative approach to negotiation research that assumed less rationality and incorporated many of the decision biases that had been emerging in behavior decision research (e.g., Tversky & Kahneman, 1974; Kahneman & Tversky, 1979). Examples of these biases include information framing and anchoring effects, information salience biases, and overconfidence in achieving favorable outcomes. This shift away from the rational game-theoretic approach in the 1980's represented an alternative framework to research negotiation known as the decision-analytic approach to negotiations.

Driven by criticisms (Tsay & Bazerman, 2009) that the decision-analytic approach to negotiations ignored many social factors (e.g., social relationships, egocentrism, attribution and construal processes, and motivated illusions), by the turn of the century researchers in negotiation began to addressing missing pieces by integrating social psychology perspectives into their negotiation research. Today, Tsay and Bazerman (2009) capture current trends in their examination of future directions for negotiation research to include: ethics in negotiation, emotions in negotiation, negotiator intuition, and the natural negotiator.

The *natural negotiator* is of particular relevance to the current research because it deals with the idea of the trainability of the negotiation skill. Research into the *natural negotiator* centers on a nature versus nurture conflict. The nature side of the argument holds that some people are just naturally good negotiators as the result of innate ability and talent. The nurture side of the argument suggests that negotiation skill is something that can be trained and acquired (Tsay & Bazerman, 2009).

Training negotiation skills requires acknowledgement of the different orientations negotiators can take towards the actual negotiation activity. These negotiation orientations always exist in pairs, where each side may have different goals and perceive these goals to either be in conflict or mutual attainment. The goals each side holds and the perception of shared or competing interest influences the negotiation behavior. "In this view, one can characterize the state of a negotiation process from the perspective of the competitive/cooperative orientation of the parties to the negotiation and the strategies they employ in light of those orientations" (Core, Traum, Lane, Swartout, Gratch, van Lent, & Marsella, 2006, p. 687). The literature on negotiation defines four orientations negotiators can take: integrative (Core et al., 2006; Green & Burleson, 2003; Zetik & Stuhlmacher, 2002), distributive (Core et al., 2006; Green & Burleson, 2003; Zetik & Stuhlmacher, 2002), relational (Green & Burleson, 2003), and avoidance (Core et al., 2006).

An integrative negotiation orientation, or strategy, is one where the situation is perceived as a win-win condition. That is, both parties can potentially achieve their respective goals so the negotiation adds value and is of benefit to both sides participating (Core et al., 2006). Greene and Burleson (2003) define several behaviors of the integrative strategy. These include: setting specific and reasonably high goals for one's self; lowering one's goals reluctantly; sharing

information about one's priorities and make trade-offs among issues of differing importance; being aware of and controlling their cognitive biases; being selectively contentious; and signaling to the other party that they are concerned about the opponent's needs and interests. "Integrative tactics are more cooperative, with negotiators actually attempting to see issues from the other's perspective. Tactics can be arguments that support the other's position, acceptances of offers, offers of support, etc." (Core et al., 2006, p. 687).

An example of an integrative negotiation strategy can be found in the principled negotiation method (Fisher, Ury, & Patton, 2011). The principled negotiation method is based on alignment of areas of mutual gain between parties while resolving any areas of conflict using fair, impartial standards. The method has four primary steps: (1) separate the people from the problem, (2) focus on interests, not positions, (3) invent options for mutual gain, and (4) using objective criteria.

A distributive negotiation strategy assumes a win-lose condition. There is a fixed value to be distributed, resulting in a winner and a loser to the negotiation (Core et al., 2006). Greene and Burleson (2003) define the behaviors of the distributive strategy to include: engaging in tough bargaining; being argumentative; holding resources that are valuable to the opposition; creating alternatives to reaching agreements; occasionally misleading the opposition; and acting in good faith. "Distributive tactics can include various defensive moves, such as stating prior commitments that bind the negotiator or arguments that support the negotiator's position. Distributive tactics can also be more offensive, such as threats, criticisms, insults, etc." (Core et al., 2006, p. 687).

A relational negotiation strategy is one that assumes that the current negotiation is only one part of an ongoing relationship with the other party. Relational negotiations not only assume that both parties will come to the table again in the future, but understand that actions taken now can have consequences in future negotiations. Greene and Burleson (2003) describe relational negotiators as ones that avoid using tactics that might harm the ongoing relationship and sometimes sacrifice their own outcomes to preserve the future relationship.

Negotiation strategies presume a commitment to engage in negotiation by both parties. In the avoidance orientation towards negotiation the individual simply stays away from the negotiation and denies any need for it. This tactic can include shifting the focus of conversation and delays in responding (Core et al., 2006).

"Successful negotiation requires good preparation and adherence to a negotiation strategy (e.g., win-win). Strategy application requires real-time decision making guided by information gained during preparation along with information revealed by a negotiating counterpart during the meeting" (Durlach et al., 2008, p.1). Being able to perceive the other party's verbal and nonverbal signals and decipher their motives, emotions, and true positions is important to one's negotiation strategy and ultimately to a successful negotiation. One's emotional intelligence is key to understanding the valuable information underlying a negotiation interaction. By tapping into the rich information that emotions provide, people often can alter their thinking and behavior in such a way as to allow themselves to negotiate organizational challenges in a more

adaptive (and productive) manner” (Greene, 2010, p. 32). However, as suggested by Durlach, Wansbury, and Wilkinson (2008), a potential barrier to accurate interpretation of the other party can be when the other party is from a different culture with unfamiliar social norms.

Across the current literature reviewed on negotiation several areas of application were represented. A list of related domains found in the current literature reviewed includes:

- Military (Core et al., 2006; Gelfand, 2008; Montgomery, 2007)
- Commerce (Core et al., 2006)
- Leadership (Greene, 2010; Montgomery, 2007)
- Cross-cultural interactions (Durlach et al., 2008; Gelfand, 2008; Lane, Core, Gomboc, Karnavat, & Rosenberg, 2007)
- Collective bargaining (Carpenter & Wisecarver, 2004; Klein et al., 2006; Stevens, 1963 as cited in Greene & Burleson, 2003)
- Buyer-seller transactions / Deal-making negotiations (Gelfand, 2008; Karass, 1970 cited as in Greene & Burleson, 2003)
- Diplomacy (Core et al., 2006; Gelfand, 2008; Lall, 1966 as cited in Greene & Burleson, 2003)
- Workplace (Stauss, 1978 as cited in Greene & Burleson, 2003; Stuhlmacher & Citera, 2005)
- Marital settings (Scanzoni & Godwin, 1990 as cited in Greene & Burleson, 2003)
- Legal contexts (Van Koppen, 1990 as cited in Greene & Burleson, 2003)

3.3.5.4. Negotiation skill training methods.

The goal of skill development in negotiation training is to teach trainees how to achieve something that neither party could achieve independently. Negotiation training courses typically included instruction on economic analysis of issues, tactical and strategic moves, negotiation preparation, structuring deals, and interpersonal communication with the interpersonal emphasis on skills such as assertiveness, empathy, active and reflective listening, establishing trust, making opening statements, and formulating questions (Greene & Burleson, 2003). Greene and Burleson describe standard negotiation training to follow a cyclical model including “development of concepts, principles and generalizations, enactment of concrete experience, observations and reflections on these experiences, and applying concepts to new situations” (Greene & Burleson, 2003, p. 823). Logan (2001) cites several ongoing need areas in negotiation training programs to include: a focus beyond communication; incorporating information on roles, strategies, and resources; ongoing negotiation training versus one-shot courses; a mentoring component; and an increased emphasis on role-play exercises that teach active listening and empathy skills.

Two alternative conceptual organizations of negotiation training programs are offered by Bordone (2000) and Greene and Burleson (2003). Bordone describes three types of training emphases: a conflict theory approach, skills-centered approach, and a blended approach. The conflict theory approach “emphasizes a cognitive, concept-centered approach to the teaching of negotiation and dispute resolution” (Bordone, 2000, p. 377). The skills-centered approach

utilizes a more skill and workshop-oriented delivery approach. The blended approach “blends the two approaches by presenting some theory through readings and lectures with several negotiation workshop-like simulations performed by students” (Bordone, 2000, p. 377). Greene and Burleson (2003) also describe three types of training emphases, but these differ considerably from those of Bordone (2000): an experiential emphasis, a reflection emphasis, and analytical-conceptual emphasis. Training with an experiential emphasis “simulations, negotiation exercises, and virtual tutorials through role-playing activities or computerized games” (Greene & Burleson, 2003, p. 823). Training with a reflection emphasis “follows simulation and provides an opportunity to analyze and generalize from experiential learning. Methods that promote reflection include debriefings of simulations, diagnostic feedback, use of assessment tools, analytical journals, videotaped critiques, and formal written analyses that apply concepts to simulations” (Greene & Burleson, 2003, pp. 823-824). Training with the analytical-conceptual emphasis uses “readings, cases, and film to examine negotiation behavior in context, observe nonverbal behaviors, and understand the complexities of the process” (Greene & Burleson, 2003, p. 824).

The primary similarity across all conceptions of negotiation training is the need for practice and experiential learning with negotiation skills in live role-play settings (Bordone, 2000; Core et al., 2006; Greene & Burleson, 2003). “While general principles for effective negotiation can be taught in a classroom setting, becoming an effective negotiator requires practice, usually in a role-playing situation where a teacher or mentor plays the part of one of the opposing parties” (Core et al., 2006, p. 685). In addition to practice, coaching and feedback plays a common role; however, the timing of the tutoring is a key feature. “To best learn from mistakes (or sub-optimal behavior), it is best to do so after practice, free from the time pressures of the exercise” (Core et al., 2006, p. 691).

With advancements in computing technology, simulators have grown in popularity over the past decade (Bowden et al. 2004; Core et al., 2006; Durlach et al., 2008; Lane et al, 2007). Two examples are the Enhanced Learning Environments with Creative Technologies Bi-Lateral negotiation serious game (ELECT BiLAT) (Durlach et al., 2008; Lane et al, 2007) and a technology called eXplainable Artificial Intelligence (XAI) integrated into a simulation environment (Core et al., 2006). Both are intelligent tutoring systems that encourage negotiation preparation, role play practice, reflective feedback, and coaching. ELECT BiLAT is a scenario based simulation that uses interactive stories and simulated meetings to train negotiation skills (Lane et al, 2007). ELECT BiLAT is used to “train deliberate preparation behaviors and trust- and relationship-building strategies, which enable a negotiator to be successful under difficult, operational settings. Another aim is to familiarize the trainee with how to employ knowledge of local social norms to make more effective judgments about appropriate actions within a cross-cultural negotiation” (Durlach et al., 2008, p.2). XAI is also a scenario-based simulation trainer that uses “deliberate practice (i.e., negotiating with a virtual human), guided discovery (i.e., questioning the virtual human using the XAI system), and reflection (i.e., interacting with the reflective tutor)” (Core et al., 2006, p. 686).

3.3.5.5. Negotiation skill assessment and measurement methods.

Greene and Burleson (2003) indicated that assessing negotiation skills training involves “a number of tests, including feedback from participants, indicators of goal achievement, assessment of skills utilization, and transfer of skills to different situations... however, few programs actually assess whether training increases participants’ knowledge or improves their bargaining skills” (p. 824). Contrary to their claim, the effectiveness of the BiLAT prototype “was measured via scores on an independent situational judgment test, completed by Soldiers both before and after training. Each time administered, the test yields a single score indicating the degree to which an individual’s answers concur with experts’ answers.” (Durlach et al., 2008, p. 1). In the literature reviewed in the present research, the breadth of studies assessed negotiation skill through peer feedback (Bordone, 2000), SME behavioral observation (Bordone, 2000; Greene & Burleson, 2003), indicators of goal achievement, e.g., success, satisfaction, profitability, etc. (Ma & Jaeger, 2010; Stuhlmacher & Citera, 2005; Zetik & Stuhlmacher, 2002), and assessment of skills utilization, e.g., situation judgment tests (Core et al., 2006; Durlach et al., 2008; Lane et al., 2007); but no studies to date were located that assessed transfer of skills to different situations.

3.3.5.6. Summary of findings on negotiation skill training.

There was a notable gap, or lack of exploration, of negotiation skill training method variations in the experimental literature examined. As discussed next, the majority of the literature reviewed examined the impact on negotiation outcomes of individual differences, training simulators, and negotiation strategies. There is seemingly a large opportunity for research into the effectiveness of different training programs, or variations in individual training methods, on negotiation skill acquisition and negotiation outcomes.

In their review of negotiation research, Tsay and Bazerman (2009) outline a number of ways that negotiation outcomes may improve with training in negotiation skill (see also Scanzoni & Godwin, 1990). Included in these training benefits were greater likelihood of integrative agreements (citing Thompson, 2005), greater likelihood of joint outcomes (citing Thompson, Gentner, & Loewenstein, 2000), more frequent resolution under final-offer arbitration (citing Bazerman & Neale, 1983), and transfer of negotiation skills to other situations and behaviors (citing Coleman & Lim, 2001). However, also noted were research findings counter to claims of the benefit of negotiation training referencing research where individual differences explained observed differences in negotiation training outcomes (citing Elfenbein, Curhan, Eisenkraft, Shirako, & Brown, 2009).

Ma and Jaeger (2010) explored cultural differences in negotiation performance by contrasting individualistic versus collectivist participants. More specifically, their study examined the relationship between assertiveness and negotiation outcomes moderated by cultural differences of the sample, where the individualistic sample was Canadians and the collectivist sample was Chinese. Their findings indicated that the assessed level of assertiveness, measured with the Rathus-assertiveness schedule questionnaire, was associated with assertive behavior during negotiations, and assertive behavior was associated with both economic outcomes and satisfaction with negotiation. However, these findings were moderated by culture, where assertive indices (i.e., level of assertiveness, making first offer, and exhibiting assertive

behaviors) was related to economic outcomes for Canadians, but not Chinese. “This indicates the social desirability of assertive behaviors in Canada’s individualistic culture, and their uncertain influence on negotiation outcomes in China’s collectivistic culture” (Ma & Jaeger, 2010, p. 341).

Gelfand (2008) also examined the role of cultural individual differences in negotiation skills training and their impact on cultural biases and misunderstandings in bilateral cultural negotiations. Here, it was suggested that training negotiators with cultural intelligence may help them overcome the biases prone to cultural individual differences in bilateral cultural negotiations. Cultural intelligence, or CQ, is a four dimensional construct defined as one’s ability to adapt to new cultural settings. The four dimensions of CQ are:

- (1) Metacognitive CQ—an individual’s cultural mindfulness in adapting to a new culture, involving such skills as planning how to learn the new culture, monitoring one’s own culture-specific assumptions, and evaluating one’s progress of comprehending the new culture;
- (2) Cognitive CQ—an individual’s specific knowledge about the new culture;
- (3) Motivational CQ—an individual’s self-efficacy and persistence in adapting to the new culture; and
- (4) Behavioral CQ—an individual’s repertoire of verbal and nonverbal behaviors necessary to adapt to a new culture. (Gelfand, 2008, pp. 90-91)

Durlach, Wansbury, and Wilkinson (2008) evaluated the effectiveness of the Enhanced Learning Environments with Creative Technologies Bi-Lateral negotiations simulator (ELECT BiLAT). The simulation trainer did demonstrate that a relatively short amount of training with BiLAT (less than three hours) was sufficient to increase negotiation knowledge measured with situation judgment tests (SJT). However, the findings were moderated by prior negotiation experience level. The change in scores from pretest to posttest increased significantly for novice negotiators but a significant change was not found for negotiators with prior negotiation experience.

Stuhlmacher and Citera (2005) meta-analytically explored the fit of psychological distance and barrier perspectives on outcomes and hostile behavior during negotiations by examining differences in the format of negotiations; specifically, negotiations that occurred face-to-face versus virtually (e.g., telephone, e-negotiations [email/text], video-conferencing). In brief, the psychological distance perspective contends that virtual distance in negotiations depersonalizes the interaction and can lead to both less effective and more hostile negotiations. The barrier perspective contends that eye contact and other nonverbal behaviors are important for establishing dominance in a negotiation; consequently, hostility in competitive negotiations is mitigated by adding a visual barrier (e.g., telephone format). Stuhlmacher and Citera (2005) found that behavior was less hostile under face-to-face (FTF) than virtual negotiations and negotiators bargaining FTF made more profit than those bargaining using virtual media. The meta-analytic results suggest that virtual negotiations involved more hostile behavior and lower profits than face-to-face negotiations and lend support the psychological distance perspective.

Zetik and Stuhlmacher (2002) meta-analytically explored the role of goal setting in successful negotiations. Here, the authors examined several features of goal setting in

negotiations including: having a goal (present versus not), goal optimality, goal difficulty, goal setting (self-set vs. assigned), and goal pairing between opponents. Findings suggest that:

- Negotiators with goals were significantly more profitable than no-goal negotiators.
- Negotiators with optimal goals achieved significantly higher profits than negotiators with suboptimal goals.
- Negotiators with difficult goals were significantly higher than those obtained by easy goal negotiators.
- Profit outcomes for the self-set and assigned goals were not significantly different.
- Negotiations that involved the opponent holding lower or less optimal goals resulted in a more profitable outcome than negotiations where the opponent held equal or higher goals.

3.3.5.7. Survey of the negotiation skill training literature.

3.3.5.7.1. Review of reviews and candidate meta-analysis papers.

Two literature reviews and 2 meta-analyses on negotiation skill were identified in the literature searches. Both the reviews and meta-analyses were conducted in the past decade.

Negotiation skill literature reviews:

- Logan, M.H. (2001). *What hinders or facilitates successful crisis negotiation* (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. NQ71498).
- Tsay, C-J., & Bazerman, M.H. (2009) A Decision-making perspective to Negotiation: A Review of the Past. Harvard Business School, Working Paper, # 10-002.

Negotiation skill meta-analyses:

- Stuhlmacher, A.F., & Citera, M. (2005). Hostile behavior and Profit in Virtual Negotiation: A Meta-Analysis. *Journal of Business and Psychology*, 20(1), 69-93.
- Zetik, D.C., & Stuhlmacher, A.F. (2002) Goal Setting and Negotiation Performance: A Meta-Analysis. *Group Processes & Intergroup Relations*, 5(1), 35-52.

3.3.5.7.2. Meta-analysis candidate breakdown of coding by design.

Of the 1473 abstracts (1065 in EBSCO and 408 in DTIC) reviewed for experimental papers, 1450 did not meet the criteria for a meta-analysis candidate. Overall, 23 candidate meta-analysis papers were identified. Results are shown in Table 14. Based solely on information in the abstracts, of those candidate papers, 2 (9%) were coded for posttest only and 11 (48%) for using a pretest and posttest (10 did not provide enough information to code for testing). With regard to experimental design, there were 0 studies that used a traditional no training control group and 10 (43%) studies used another form of training as a comparison group (11 did not provide enough information to code for design and 2 used a treatment only design). Figure 7 shows the

frequency distribution of publications over the past 5 decades; as is evident, there has seemingly been a surge in experimental negotiation publications over the past two decades.

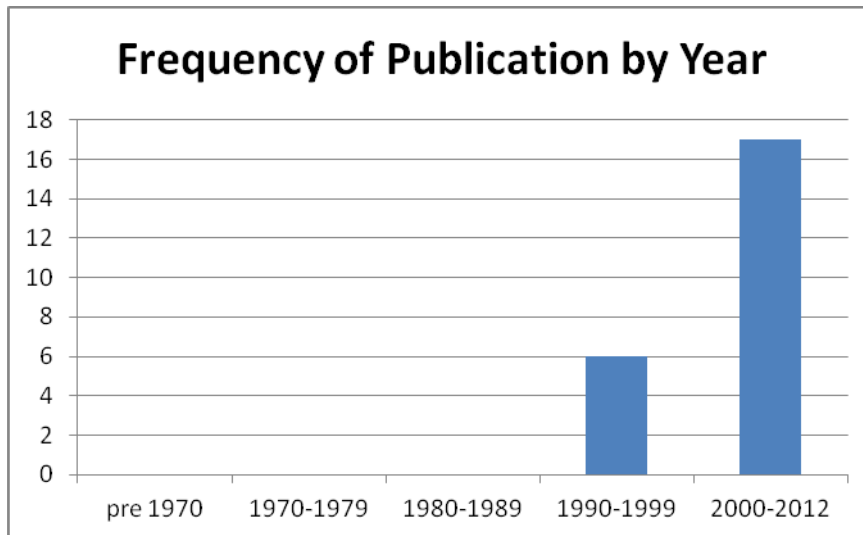


Figure 7. Histogram of negotiation skill training publications

Of note here is that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 14. Negotiation training abstract coding, sorted by author.

Study	Measurement: 0 - Not enough detail provided 1- Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Arunachalam, V., & Dilla, W. (1992). Computer-Mediated Communication and Structured Interaction in Transfer Pricing Negotiation. <i>Journal of Information Systems</i> , 6(2), 149-170.	2	2
Bereby-Meyer, Y., Moran, S., Unger-Aviram, E. (2004). When performance goals deter performance: Transfer of skills in integrative negotiations. <i>Organizational Behavior and Human Decision Processes</i> , 93(2), 142-154.	2	2
Dettori, G., Giannetti, T., Persico, D. (2006). SRL in Online Cooperative Learning: Implications for Pre-Service Teacher Training. <i>European Journal of Education</i> , 41(3-4), 397-414.	0	0
Druckman, D., & Ebner, N. (2008). Onstage or behind the Scenes? Relative Learning Benefits of Simulation Role-Play and Design. <i>Simulation & Gaming</i> , 39(4), 465-497.	0	2
Durlach, P.J., Wansbury, T.G, Wilkinson, J.G. (2008). Cultural Awareness and Negotiation Skills Training: Evaluation of a Prototype Semi-Immersive System. <i>Proceedings of the 26th Army Science Conference Held in Orlando, FL.</i>	2	2

Table 14. (continued)

ElShenawy, E. (2010). Does negotiation training improve negotiators' performance? <i>Journal of European Industrial Training</i> , 34(3), 192-210.	0	0
Foster, P., Ohta, A.S. (2005) Negotiation for Meaning and Peer Assistance in Second Language Classrooms. <i>Applied Linguistics</i> , 26(3), 402-430.	0	0
Friedman, R.A. (1993). Bringing Mutual Gains Bargaining to Labor Negotiations: The Role of Trust, Understanding, and Control. <i>Human Resource Management</i> , 32(4), 435-459.	2	0
Gauvin, S., Lilien, G.L., & Chatterjee, K. (1990). The impact of information and computer based training on negotiators' performance. <i>Theory and Decision</i> , 28(3), 331-354.	0	1
Gist, M., & Stevens, C. (1998). Effects of Practice Conditions and Supplemental Training Method on Cognitive Learning and Interpersonal Skill Generalization. <i>Organizational Behavior & Human Decision Processes</i> , 75(2), 142-169.	0	2
Gist, M.E., Stevens, C.K., Bavetta, A.G. (1991). Effects Of Self-Efficacy And Post-Training Intervention On The Acquisition And Maintenance Of Complex Interpersonal Skills. <i>Personnel Psychology</i> , 44(4), 837-861.	2	0
Heaven, C., Clegg, J., & Maguire, P. (2006). Transfer of communication skills training from workshop to workplace: The impact of clinical supervision. <i>Patient Education & Counseling</i> , 60(3), 313-325.	1	2
Jackson, S.F. (2006). Gaming and Simulation Using Microsoft Excel. Paper presented at the annual meeting of the International Studies Association, San Diego, CA.	0	0
Jones, B.H., Jones, G.H., & Banerjee, D. (2005). An Empirical Analysis of Negotiation Teaching Methodologies Using a Negotiation Support System. <i>Journal of Educational Technology Systems</i> , 33(3), 283-293.	1	2
Knodel, M.L. (2003). Perceptions vs Reality: A Longitudinal Experiment in Influenced Judgement Performance. Master's thesis Presented to the Faculty Department of Systems and Engineering Management, Graduate School of Engineering and Management, Air Force Institute of Technology, Air University, Air Education and Training Command, Wright-Patterson Air Force Base, OH.	2	0
Lang, A., & Otto, B. (2010). Do prepared negotiators achieve more? Testing a training program to improve planning of negotiations. <i>Organisations psychologie</i> , 54(2), 92-102.	2	2
Maddux, W.W., Mullen, E., Galinsky, A.D. (2008). Chameleons bake bigger pies and take bigger pieces: Strategic behavioral mimicry facilitates negotiation outcomes. <i>Journal of Experimental Social Psychology</i> , 4(2), 461-468.	0	0
Ogilvie, D.T., & Simms, S. (2009). The impact of creativity training on an accounting negotiation. <i>Group Decision and Negotiation</i> , 18(1), 75-87.	0	0
Otto, B., Lang, A., & Schmitz, B. (2007). Self-regulation in negotiation: Evaluation of a training program to improve negotiating competence. <i>Organisations psychologie</i> , 51(2), 68-78.	2	2
Stevens, C.K., & Gist, M.E. (1997). Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: What are the mechanisms? <i>Personnel Psychology</i> , 50(4), 955-978.	2	0
Turnuklu, A., Kacmaz, T., Sunbul, D., Ergul, H. (2010). Effects of Conflict Resolution and Peer Mediation training in a Turkish high school. <i>Australian Journal of Guidance and Counselling</i> , 20(1), 69-80.	0	1
Weissbein, D., Huang, J., Ford, J., Schmidt, A. (2011). Influencing Learning States to Enhance Trainee Motivation and Improve Training Transfer. <i>Journal of Business & Psychology</i> , 26(4), 423-435.	2	2
Weissbein, D.A. (2000). Improving training effectiveness through motivation: Creating a psychological states intervention (Doctoral dissertation). ProQuest Dissertations & Theses Database. (UMI No. 9972018)	2	0

3.3.6. Conflict resolution skill summary.

Conflict resolution has been considered a sub-skill under the larger umbrella term of *relationship building*, along with skills such as team cooperation and coordination, trust, and negotiation. “Negotiation and conflict management are needed when one is conferring with others to come to terms with them, to reach an agreement, or to assign tasks. Depending on the nature of the conflict, the leader can use the conflict as an opportunity for team development. “An effective resolution of a conflict contributes to team building” (Green, 2010, p. 4).

3.3.6.1. Conflict resolution skill definition.

Conflict resolution has been defined as a process in which interpersonal communication is used to allow two conflicted parties to reach an amicable and satisfactory point of agreement (Omoluabi, 2001). Successful conflict resolution involves “Advocating one's position with an open mind, not taking personally other members' disagreements, putting oneself in the other's shoes, following rational argument and avoiding premature evaluation, and trying to synthesize the best ideas from all viewpoints and perspectives” (Klein et al., 2006, p. 86). This ability to support different perspectives and address disagreements constructively without harmful conflict has the benefit of preserving good relationships and enhancing trust (Bowden et al., 2003).

3.3.6.2. Alternative labels for conflict resolution skill.

Alternative labels were identified in order to obtain a comprehensive lexicon for conflict management training in the literature. Many studies used the term “interpersonal conflict” or “interpersonal relationships.” Other labels included:

- Conflict management/reduction/resolution (Brockman, Nunez, & Basu, 2010; Holladay & Quinones, 2008; Harris, 2005; Jaeger & Adair, 2010)
- Construction management (Jaeger & Adair, 2010)
- Disputant learning (Harris, 2005)
- Distributive bargaining (Feeny & Davidson, 1996; Murray, 1986)
- Group effectiveness (Kets de Vries, 2005)
- Human/communication skills (Harris, 2005; Kets de Vries, 2005; Jaeger & Adair, 2010)
- Integrative/intergroup negotiation (Feeny & Davidson, 1996; Nayar, Touzard, & Summers, 1967; Ford, 1993)
- Mediation (Harris, 2005; Nayar et al., 1967)
- Problem-solving abilities/capabilities (Yalcin, Karahan, Karadenizli, & Sahin, 2006; Jaeger & Adair, 2010)

3.3.6.3. Background on conflict resolution.

Five underlying themes of conflict are generally accepted across the field of conflict studies (Deutsch, 1994, as cited in Boulter, Von Bergan, Miller, & Wells, 1995). First, those in conflict typically have a combination of cooperative and competitive motives. Second, the conflict can be constructive (e.g., a positive experience) or destructive (e.g., a negative experience) and the goal is to make conflict constructive, not to eliminate conflict. Third, there are different strategies, techniques, and tactics associated with cooperative and competitive motives. Fourth, the relative strength of the cooperative and competitive interests within the conflicting parties will determine the conflict management process and whether the results of the conflict are likely to be constructive or destructive (Deutsch, 1994, as cited in Conflict Research Consortium, 2000).

“There are advantages and disadvantages to conflict management strategies depending on the type of conflict and the situation or context (Lewicki, Barry, Saunders, & Minton, 2003; Sandy, Boardman, & Deutsch, 2006). The Dual Concern Model (Rubin, Pruitt, & Kim, 1994; Blake & Mouton, 1964) is the most widely used approach to describe styles or strategies used to manage conflict” (Brockman, Nunez, & Basu, 2010, p. 279). It describes five general styles which have been given slightly different names by different researchers: confronting/collaborating, withdrawing/avoiding, forcing/competing, smoothing, and compromising (Meyer, 2004; Ogunbamila, 2006, as cited in Salami, 2010). For example, the collaborating style creates an environment where relationships are preserved and even fostered. Different parties in the conflict may take different approaches.

3.3.6.4. Conflict resolution skill training methods.

The training of conflict resolution is often done in a workshop format that includes lecture and practice opportunity. As an example of a lecture topic, a study at the Graduate School at Michigan State University (Brockman, Nunez, & Basu, 2010) examined the strengths and weaknesses of different options for managing conflict between graduate students and faculty. In another study, Karahan (2009) developed a 10-session program that included topics such as: 1) saying no to unpractical suggestions and producing alternatives, 2) countering critics when criticized, and 3) exercising active listening skills and making eye contact. Lyons (1991) speaks to ways in which conflict resolution is trained: writing responses to different conflict situations, brainstorming, role playing with discussion, modeling solutions, role reversals, skits, and simulation. Lyons work was done with children in middle school but the same training approaches are applicable to adults as well.

With regard to practice, Feeney and Davidson (1996) summarize the state of empirical evaluations of conflict resolution training. These studies deliver “problem-solving communication prescriptions” (Feeney & Davidson, 1996, p. 256) and predominantly showed improvements in conflict handling behavior with few exceptions. In other words, the training involves practicing conflict resolution communication techniques in the context of scenarios in which two parties have different viewpoints.

Conflict resolution training can be combined with training of non verbal communication skills, both expression and interpretation. Karahan’s (2009) study included training on active listening and eye contact. Faconti and Hagerstrand’s (1987) conflict resolution training involved 20 hours of training on communication skills (attending, squaring, eye contact, reflective and active listening), non-listening techniques, decoding verbal and nonverbal messages, use of open ended questioning, refraining from blocking, feeling questions, problem-solving, examining feelings, brainstorming, and generating multiple solutions. The results are particularly interesting because they use a real world transfer measure as evidence of effectiveness. The high school receiving the training went from the lowest ranking in the district (most suspensions and fighting) to an average ranking.

3.3.6.5. Conflict resolution skill assessment and measurement methods.

3.3.6.5.1. *Self-reports.*

The self-report assessments include both forced response methods (which require respondents to choose one mutually exclusive response) and fixed response methods (in which respondents can select one or more responses from a set of possible answers). These methods often use multiple choice or rating scales. The following self-report techniques are personality assessments that include a conflict resolution aspect:

- California Psychological Inventory (Gough, 1987) is a personality inventory that evaluated interpersonal behavior and social interaction of normal individuals.
- Edwards Personal Preference Schedule (Edwards, 1959/1985) is a forced-choice personality and behavior measurement where individuals rank one need (personal, social, sexual and emotional) versus another.
- Personality Research Form (Jackson, 1967) measures 22 aspects of normal personality.
- Sixteen Personality Factor Questionnaire (Cattell, 1946; Cattell, Cattell, & Cattell, 1993) measures characteristic preferences of thinking, perceiving, and acting over time and in various circumstances.
- Assessment of Individual Motivation (Knapp, Waters, & Heggstad, 2002, as cited by Bowden et al., 2003) was developed by the U.S. Army Research Institute to measure and standardize work-related personality characteristics.
- The Sociotropy-Autonomy Scale (Beck, Epstein, Harrison, and Emery, 1983, as cited in Karahan, 2009) is a self-report questionnaire that measures personality dimensions (social dependency and autonomy) associated with depression.
- The Wong Law Emotional Intelligence Scale (Wong and Law, 2002) is a 16-item scale to assess individual differences in emotional intelligence.
- Scientific Thinking Questionnaire (Gundogdu, 2002, as cited in Yalcin, et al., 2006) is a 20-item multiple-choice questionnaire designed to assess an individual's skills in solving day-to-day problems using scientific thinking and research skills acquired during the university education process.
- Problem Solving Inventory Form A is a 35-item self-reported test (Heppner & Peterson, 1982, as cited in Yalcin et al., 2006) designed to assess perception of one's own capabilities in problem solving behavior and attitudes. It provides a general index of Problem-Solving Confidence (self-assurance while engaging in problem solving activities), Approach-Avoidance Style (a general tendency to either approach or avoid problem solving activities), and Personal Control (determining the extent of one's control over emotions and behavior while solving problems).

Two scales focus specifically on conflict resolution:

- Conflict Resolution Scale (Akbalik, 2001, as cited in Yalcin et al., 2006) is a 55-item instrument designed to assess an individual's perceptions of his or her capabilities with conflict resolution. It contains five subscales: trying to understand the person one has conflict with, listening to that person, focusing on the needs of both sides, social accommodation, and anger control (Hamamci, 2007).

- The Conflict Resolution Strategies Scale (Howat & London, 1980) was designed to assess self perceptions of problem solving behavior and attitudes. The Conflict Resolution Strategies Scale is a 25-item inventory with 5 sub-scales consisting of confronting, withdrawing, forcing, smoothing, and compromising respectively (Salami, 2010).

Often conflict management instruments are used to assess changes in conflict management styles.

The Thomas-Kilmann Conflict Mode Instrument (TKI) (Thomas & Kilmann, 1974) ... is the most widely used and one of the best known instruments (Van de Vliert & Kabanoff, 1990) in both research and training due to its ease of administration and value in uncovering individual style differences (Womack, 1988). (Brockman, Nunez, & Basu, 2010, p. 282)

The Organizational Communication Conflict Instrument (Putnam & Wilson 1982) assesses communicative behaviors and the management of interpersonal conflict (Brockman, Nunez, & Basu, 2010).

Scenario-based self-reports can require either fixed or free responses. Text is used to describe a situation and a problem that requires a decision. In fixed response assessments, each potential answer may describe a plausible way of handling the situation but some responses are more appropriate than others. The Teamwork Test (Stevens & Campion, 1999) assesses conflict resolution in addition to communication and coordination. It collects responses to 35 multiple-choice hypothetical teamwork situations (Bedwell, Fiore, & Salas, 2012). In free response assessments, the response can include situation analysis or a course of action. As an example, The Situational Judgment Tests (Bowden et al., 2003; Bedwell et al., 2012; Klein et al., 2006) present a series of real life scenarios. Often they are based on critical incidents, and thus “have face validity with both job applicants and existing employees; e.g., Richman-Hirsch, Olson-Buchanan, & Drasgow, 2000; Smither, Reilly, Millsap, Pearlman, & Stoffey, 1993” (Bedwell et al., 2012, pp. 16-17).

3.3.6.5.2. *Scales for rating others.*

The Conflict Resolution Strategies Scale (Howat & London, 1980) is used to measure the perception of a superior’s typical behavior when resolving conflicts in the workplace. The Conflict Resolution Strategies Scale is a 25-item inventory with 5 sub-scales consisting of confronting, withdrawing, forcing, smoothing, and compromising respectively. The Organizational Citizenship Behavior measure (Podsakoff & MacKenzie, 1994) consists of 3 sections: helping behavior, sportsmanship, and civic virtue. The workers’ ratings of their superiors’ citizenship behaviors were obtained on a 5-point Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree.

3.3.6.5.3. *Computer-based simulation assessment methods.*

Computer-based simulation assessment methods utilize static and/or dynamic video or 3D computer simulations. Respondents select from a predetermined set of possible answers and “can

be queried at critical decision points in the scenario for the best response given the conflict they have been observing, for key characteristics of the scenario, or for actions that may lead to resolution of the conflict” (Bowden et al., 2003, p. 26). The stimulus tends to be high fidelity and the response examples are low fidelity. Performance metrics can be based on both the responses and the number of attempts before a trainee has a favorable reaction (Jaeger & Adair, 2010).

3.3.6.5.4. Live action methods.

Live action assessment methods utilize hypothetical situations acted out by participants in individual, group, or role play contexts. They allow for SME ratings of behavior. Two examples are the Leaderless Group Discussion and Social Simulation practice exercise. Leaderless Group Discussion (Bowden et al., 2003; Bedwell et al., 2012; Bowden et al., 2004) is a type of role play in which participants are given a job-related problem to solve or a job-related issue to discuss in the absence of an appointed leader. The group interaction is videotaped and scored by trained judges. Each individual is scored on the extent to which they effectively display such skills as peer leadership, conflict management, team orientation and cooperativeness in problem solving (Bowden et al., 2004). The social simulation practice exercise involves a real context for the skill being learned (e.g., for conflict resolution course, learners simulated an actual conflict situation involving the learner and a coworker; Gilmore & Fritsch, 2001).

Live action practice methods are often scored or assessed by trained judges. Behavioral observation scales have a history of high test-retest reliability, observer reliability, and construct validity (Bedwell et al., 2012). Taggar and Brown (2001, as reported in Bedwell et al., 2012) created a behavioral observation scale to assess self management and the interpersonal skills of conflict resolution, collaborative problem solving, and communication.

3.3.6.6. Summary of findings on conflict resolution skill training.

Deutsch (1994, as cited in Conflict Research Consortium, 2000) explains that training social skills is different from other skills such as physical skills. This is because students come to the training with their own conflict resolution experiences and attitudes. Therefore, knowledge of conflict resolution techniques is not enough. Students need repeated practice in a variety of circumstances while being observed and corrected by a qualified person (Deutsch, 1994 as cited in Boulter et al., 1995). It is critical to obtain feedback on their practice performance and to learn to solicit effective feedback. Modeling is another effective training technique. Modeling provides a new model of conflict resolution that trainees can compare to existing techniques. Through modeling and feedback, the conflict resolution techniques become internalized (Boulter et al., 1995).

The social skill of conflict resolution does not exist in a vacuum. It is often paired with non verbal communication training. Affect is another component of successful conflict resolution training. Studies reported a more significant gain in conflict resolution skills when affect was dealt with and seen as important (Johnson & Greenberg, 1995, as cited in Boulter et al., 1995).

Conflict resolution training was shown to be effective in impacting personality traits. Karahan (2009) included a training intervention in which volunteers participated in ten 90-minute sessions of communication and conflict resolution skill training. The training was workshop style with both lecture and practice on topics such as countering critics when an individual is criticized and defending against unfair critics. A control group had no training. The primary measure was a pre and post test with the Sociotropy-Autonomy Scale (Beck, Epstein, Harrison, & Emery, 1983, as cited in Karahan, 2009) which measures dependence and the need to establish secure and positive interpersonal communication with others. The conflict resolution training group had lower sociotropy levels compared to their pretest scores and they had lower posttest sociotropy levels than the control group. Lower scores indicate less dependence, less passivity, and less need to please others.

The frame or focus of the training has also been shown to impact conflict resolution skills. Holladay and Quinones (2008) conducted computer-based diversity training in which the content focused on either similarities among individuals or differences between individuals. Trainees whose training focused on similarities chose more effective conflict resolution strategies than those whose training content focused on differences among individuals. Learning was measured using a computer-based conflict situational judgment test in which participants viewed video scenarios and choose the most appropriate managerial action to resolve the conflict (Holladay & Quinones, 2008).

Zhang (1994, as cited in Boulter et al., 1995) conducted an empirical study with three high schools. One school received training in constructive conflict resolution, another in cooperative learning, and the third in both constructive conflict resolution and cooperative learning. Of interest to this review, constructive conflict resolution training improved conflict resolution as evidenced by increased social support, decreased victimization, enhanced positive life attitudes, and a sense of personal control over one's fate.

3.3.6.7. Survey of the conflict resolution literature.

3.3.6.7.1. Review of reviews and candidate meta-analysis papers.

No meta-analyses were found in the literature. One literature review was identified. The authors of that paper state that it serves as a brief overview of the conflict management literature and training approaches. The review spanned the years 1982 through 1995:

- Boulter, A., Von Bergan, C.W., Miller, & Wells (1995). Conflict resolution: An abbreviated review of current literature with suggestions for counselors. *Education*, 116(1), 93-97.

3.3.6.7.2. Meta-analysis candidate breakdown of coding by design.

Of the 723 abstracts (511 in EBSCO and 212 in DTIC) reviewed for experimental papers, 668 did not meet the criteria for a meta-analysis candidate. Overall, 52 candidate meta-analysis papers were identified. Results are shown in Table 15. Based solely on information in the

abstracts, of those candidate papers, 14 (27%) included both pretest and posttest measures. Three of the studies included a control group that received no training and 8 of the studies had a comparison group that received a different type of training. Figure 8 shows the frequency distribution of publications over the past 6 decades.

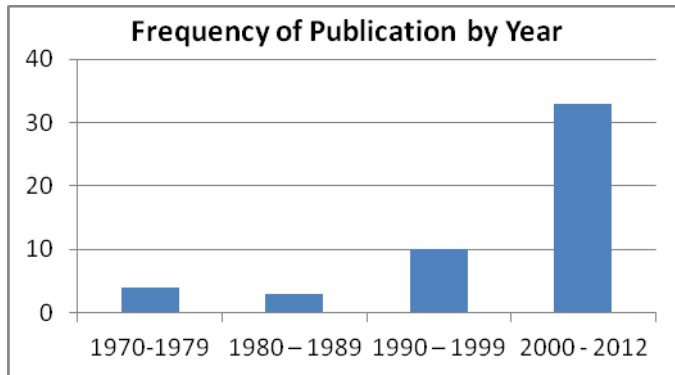


Figure 8. Histogram of conflict resolution publications.

Note that frequencies are the result of abstract reviews, not full text reviews. Some abstracts did not provide enough detail for experimental assessment, while others lacked explicit details of the design.

Table 15. Conflict resolution training abstract coding, sorted by author

Publication	Measurement: 0 - Not enough detail provided 1- Posttest Only 2- Pretest AND Posttest	Manipulations: 0 - Not enough detail provided 1 - Treatment Only 2 - "Other training" comparison group 3 - "No Training" Control Group
Abbott, J.H. (1994). The need for conflict resolution training for public school administrators as perceived by Indiana public school superintendents and high school principals Indiana State University. <i>Dissertation Abstracts International Section A: Humanities and Social Sciences</i> , 55(10-A), 3043. AM9506164	2	0
Ann E. (2009). Group charters and online group collaboration: Instructional design elements that may enhance the learner's satisfaction with the online learning process. <i>Capella University</i> . Unpublished Dissertation.	0	3
Aveiga, F., Valverde, O., Jaselskis, E., & Strong, K. C. (2011). Integration-communications training for improving productivity and conflict resolution strategies among culture and language diverse construction sites. <i>International Journal of Human Resources Development & Management</i> , 11(1), 16-37.	0	0

Table 15. (continued)

Berzon, Betty. & American Psychological Association, Washington, DC. (1968). <i>Peer Planned Experiences for Effective Relating. An Audio Tape Program for Self-Directed Small Groups.</i> [Washington, D.C.] : Distributed by ERIC Clearinghouse, http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED024982	1	0
Brockman, J. L., Nunez, A. A., & Basu, A. (2010). Effectiveness of a conflict resolution training program in changing graduate students style of managing conflict with their faculty advisors. <i>Innovative Higher Education</i> , 35(4), 277-293.	2	2
Chang, H. (2011). Relationships among supply chain management, strategic alliances, and organizational performance with implications for the construction industry. <i>Unpublished Dissertation.</i>	0	0
Chong, David R. (2009). Comparing the dose/response effects of mediation training on empathy. <i>US: ProQuest Information & Learning. AAI3370967.</i>	1	0
de Wit, S., Ostlund, S. B., Balleine, B.W., & Dickinson, A. (2009). Resolution of conflict between goal-directed actions: Outcome encoding and neural control processes. <i>Journal of Experimental Psychology; Animal Behavior Processes</i> , 35(3), 382-393.	0	0
Fardilha, M., Schrader, M., da Cruz e Silva, O. A. B. (2010). Understanding fatty acid metabolism through an active learning approach. <i>Biochemistry and Molecular Biology Education</i> , 38(2), 65-69.	0	0
Feeney, M. C., & Davidson, J. A. (1996). Bridging the gap between the practical and the theoretical: An evaluation of a conflict resolution model. <i>Peace and Conflict: Journal of Peace Psychology</i> , 2(3), 255-269.	2	3
Fisher-Yoshida, B. (2000). Altering awareness of self, relationship and context in conflict resolution: Impact, feedback and reflection. <i>Dissertation Abstracts International</i> . 61(03), 1694B. (UMI No. 9966201).	0	0
Ford, D.J. (1993). An evaluation of organizational effectiveness at the Naval Air Warfare Center, Aircraft Division, Indianapolis. <i>Naval Postgraduate School Monterey Ca. ADA274960.</i>	0	0
Glessner, L.L. (2000). The impact of mediation training on conflict resolution styles of career professionals at the University of Texas at San Antonio. <i>Dissertation Abstracts International Section A: Humanities and Social Sciences</i> , 61(11-A), 4306.	1	0
Hallak, M. (2001). Nonviolence training program evaluation. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> , 62(9-B), 4266. AAI3025568.	2	2
Harris, R. D. (2005). Unlocking the learning potential in peer mediation: An evaluation of peer mediator modeling and disputant learning. <i>Conflict Resolution Quarterly</i> , 23(2), 141-164.	0	0
Holladay, C.L., & Quinones, M. A. (2008). The Influence of Training Focus and Trainer Characteristics on Diversity Training Effectiveness. <i>Academy of Management Learning & Education</i> , 7(3), 343-354.	0	0
Hultman, K. E., & Cunningham, G. (1978). Preparing employees for upward mobility. <i>Training & Development Journal</i> , 32(9), 10-15.	0	0

Table 15. (continued)

Innami, I. (1994). The quality of group decisions, group verbal behavior, and intervention. <i>Organizational Behavior & Human Decision Processes</i> , 60(3), 409-430.	1	2
Jaeger, M. & Adair, D. (2010). Human factors simulation in construction management education. <i>European Journal of Engineering Education</i> , 35(3), 299-309.	0	0
John, L. A. (2008). Testing a training process to increase the emotional functioning of restaurant customer service providers. <i>Teachers College, Columbia University. Proquest, Umi Dissertation Publishing</i> . 70(1-A), 65.	2	0
Johnson, H.L., & Kimsey, D. (2012). Patient safety: break the silence. <i>AORN Journal</i> , 95 (5), 591–601.	2	1
Karahan, T. F. (2009). The effects of a communication and conflict resolution skill training program on sociotropy levels of university students. <i>Educational Sciences: Theory and Practice</i> , 9(2), 787-796.	2	3
Kets de Vries, M. F. R. (2005). Leadership group coaching in action: The Zen of creating high performance teams. <i>Academy of Management Executive</i> , 19(1), 61-76.	0	0
Khan, H. (2002). Effectiveness of a Strategic Management Development. <i>Applied H.R.M. Research</i> , 7(2), 49-52.	0	0
Klein, M. A., & Scofield, M.E. (1984). The development of rehabilitation counselor competence in conflict management: The need for an experiential training approach. <i>Rehabilitation Counseling Bulletin</i> , 27(5), 302-311.	0	0
Korn, J. (1994). Increasing teachers' and students' skill levels of conflict resolution and peer mediation strategies through teacher and student training programs. <i>Ed.D. Practicum Report, Nova Southeastern University</i> . ED375944.	2	0
Lafferty, B. D. (1998). <i>Investigation Of A Leadership Development Program</i> . Air Force Institute of Technology: Wright-Patterson AFB, OH.	0	0
Lim, Y. J. (2003). Effects and effectiveness of collaborative negotiation training: A systems approach to bridging theory and practice. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> , 64(9-B), 4679.	0	0
Missouridou, E. (2011). Bullying in nursing: Causes and ways of dealing with it. <i>Nosileftiki</i> , 50(2), 123-31.	1	0
Montgomery, D., Buzzard, C., & Resnikoff, A. (1971). Two different techniques for reducing conflict between groups. <i>International Journal of Group Tensions</i> , 1(3), 252-267.	0	0
Nayar, E. S., Touzard, H., & Summers, D. A. (1967) Training, Tasks And Mediator Orientation In Heterocultural Negotiations. <i>Human Relations</i> , 21(3), 283-294.	0	0
Ngai, P. B., & Koehn, P. H. (2002). Organizational communications in refugee camp situations. <i>New Issues in Refugee Research</i> . Working Paper.	0	0

Table 15. (continued)

Noval, L. S., Combs, C. W., Winamaki, M., Bufford, R. K. & Halter, L. (1996). Cognitive-behavioral marital enrichment among church and non-church groups: Preliminary findings. <i>Journal of Psychology and Theology</i> , 24(1), 47-53.	2	0
O'Beirne, M., & Gabe, J. (2005). Reducing violence against NHS staff: Findings from an evaluation of the safer surrey hospital initiative. <i>Crime Prevention and Community Safety: An International Journal</i> , (7), 29–39, 8140216.	0	0
O'Connor, K. L. (1994). <i>The Effects of Peer Mediation Training on Third Party Facilitated Conflict Resolution</i> . Meeting of the Association for Counselor Education and Supervision, ERIC Documents ED380745	1	0
Remer, R. (1982). An empirical examination of confrontation efficacy II. <i>Annual Meeting of the American Educational Research Association 66th</i> , New York, NY.	2	0
Salami, S. O. (2010). Conflict resolution strategies and organizational citizenship behavior: The moderating role of trait emotional intelligence. <i>Social Behavior and Personality: An International Journal</i> , 38(1), 75-86.	0	0
Saxton, R. (2010). Impact of an educational intervention on perioperative nurse self-efficacy to address disruptive physician behavior. <i>University of Missouri - Kansas City, Ph.D. Dissertation</i> . (UMI No. AAI3416404).	2	0
Schweiss, C. (2006). Winning the peace: Educating army officers as warrior diplomats. <i>Conference Papers -- International Studies Association; Annual Meeting</i> , 1.	0	0
Seren S., & Ustun B. (2008). Conflict resolution skills of nursing students in problem-based compared to conventional curricula. <i>Nurse Education Today</i> , 28(4), 393-400.	0	2
Stader, D., & Johnson, J. (1999). Reducing violence in the high school. <i>Reports - Research; Speeches/Meeting Papers</i> . ED444085.	0	1
Turner, S. M., & Adams, H. E. (1977). Effects of assertive training on three dimensions of assertiveness. <i>Behaviour Research and Therapy</i> . 15(6), 475–483.	2	2
Turnuklu, A., Kacmaz, T., Sunbul, D and Ergul, H. (2010). Effects of conflict resolution and peer mediation training in a Turkish high school. <i>Australian Journal of Guidance & Counselling</i> , 20(1), 69-80.	1	2
Varkey, P., Peloquin, J., Reed, D., Lindor, K., & Harris, I. (2009). Leadership curriculum in undergraduate medical education: A study of student and faculty perspectives. <i>Medical Teacher (MED TEACH)</i> , 31(3), 244-50.	0	0
Vecchi, G. M. (2006). Assessing organizational group conflict in law enforcement hostage/barricade management. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> , Vol 67(6-B), 3496. 3221698	0	0
Walters, K. P. (1973). An examination of the influence of primed characteristics of identity on motivation to learn conflict resolution skills. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> , 72(1-B), 575. AAI3435761	0	0

Table 15. (continued)

Watson, C. A. (2008). The relationship and differences between MBTI type, team skills and perceived team success in virtual and traditional teams. <i>Dissertation Abstracts International Section A: Humanities and Social Sciences</i> , 69(2-A), 675.	1	0
Watson, J.J. , & Remer, R. (1982). An empirical examination of confrontation efficacy I. <i>Annual Meeting of the American Educational Research Association 66th</i> , New York, NY.	2	2
Wilkenfeld, J., Kaufman, J., & Starkey, B. (1995). The international negotiation seminars project. Project ICONS. <i>Maryland Univ., College Park. Dept. of Government and Politics</i> . ED417626.	1	0
Yalcin, B. M., Karahan, T., Karadenizli, D., & Sahin, E. M., (2006). Short-term effects of problem-based learning curriculum on students' self-directed skills development. <i>Croatian Medical Journal</i> , 47(3), 491-498.	2	2
Zweibel, E. B., Goldstein, R., Manwaring, J. A., & Marks, M. B. (2008). What sticks: How medical residents and academic health care faculty transfer conflict resolution training from the workshop to the workplace. <i>Conflict Resolution Quarterly</i> , 25(3), 321-350.	0	0

4. Conclusions and Suggestions for Future Research

4.1. General conclusions from reviews

Outcomes of the series of literature reviews presented herein are brought together and summarized to provide an update of the interpersonal skill training literature as well as facilitate defining a baseline from which to move forward with future research in the interpersonal skill training research domain. The reviews of the interpersonal skills literature performed in the current work set out to achieve several objectives. These objectives for the first review performed on the IPS literature generally were:

1. Identify and define the breadth of skills falling under the “interpersonal” realm.
2. Identify and synthesize available conceptual organizations, or taxonomies, of interpersonal skills.
3. Review and organize the literature on training interpersonal skills.
4. Review and organize the literature on assessment and measurement of interpersonal skills.

The review of the broad IPS literature resulted in identification and definition of 28 individual interpersonal skills and 4 high level skill groupings (i.e., interpersonal communication skills, relationship building skills, peer leadership skills, & social/behavioral agility skills), in addition to numerous other taxonomies of interpersonal skills available in the literature. The review also identified and defined two general dimensions (instructional design elements and delivery methods) that aid in conceptualizing the breadth of multi-method IPS training programs available, in addition to, summarizing current research findings on training of IPS and identifying need areas for more IPS training research. Lastly, the literature on IPS assessment and measurement was conceptually organized around their respective essential questions and the current research findings for assessment and measure were summarized.

The literature surveys on specific IPS also set out to achieve several objectives. The objectives for the interpersonal skill-specific surveys of the literature were:

1. Continue development of working definitions for the skills reviewed.
2. Summarize relevant background information and areas of application and research.
3. Summarize skill training methods and related application and research.
4. Summarize skill assessment and measurement methods.
5. Summarize relevant research findings for skill training.
6. Survey the literature to describe the available experimental research on skill training.

The survey of the literature on the six interpersonal skills examined in the current work (i.e., active listening, nonverbal communication, assertive communication, relationship building, negotiation, and conflict resolution) resulted in thorough expansion of working definitions, identification of alternative skill labels to look for in the future literature searches, description of foundational background and historical information on each skill, and an overview of the areas of application observed in the literature surveyed. Additionally, the training methods, assessment and measurement methods specific to each skill were identified and summarized. Current research findings for each skill regarding training methods, training outcomes, and training effectiveness were summarized. Lastly, the literature was surveyed and sampled to describe the types and publication years of available experimental literature that could potentially contribute to future interpersonal skill training meta-analyses.

4.1.1. Review of training effectiveness research findings.

4.1.1.1. Active listening research findings

The training effectiveness of programs with role-play were superior to those without role-play. While no differences were observed in virtual versus face-to-face role-play delivery, not having role-play methods in the training program resulted in a general loss of training effectiveness compared to those that did include the role-play method.

4.1.1.2. Nonverbal communication research findings

The most successful form of nonverbal communication skill training utilized skill practice. This finding was consistent across literature for both presentation and interpretation of signals. Research indicated mixed training effectiveness on the role of feedback and its interaction with practice. Some research suggested that performance improved when trainees were given ample opportunity to practice even in the absence of feedback, while other research indicated that feedback was necessary for skill acquisition.

4.1.1.3. Assertive communication research findings

Research suggested that the typical communication assertiveness training program follows the general form of behavioral role modeling training and that it is effective. Recent research

suggests that training effectiveness for assertive communication with the role-play practice and feedback components were superior to training with lecture & demonstration and lecture only.

4.1.1.4. Relationship building research findings

This interpersonal skill received limited attention in training research, but the two reports examined revealed that their training programs provided improvement in relationship building skills by the end of the course. Both relationship building training programs used forms of behavioral role modeling training (instruction, demonstration, role play practice, feedback).

4.1.1.5. Negotiation research findings

There is a lack of exploration of negotiation skill training method variations in the experimental literature examined; however, the limited research suggests a general benefit to negotiation training, particularly for novice negotiators. The benefit is not conclusive - there is research suggesting counter claims to the benefit of negotiation training. Referenced research show individual differences explaining observed differences in negotiation training outcomes. Individual differences cited include personality and cultural background.

4.1.1.6. Conflict resolution research findings

The most effective training programs for conflict resolution skill involved modeling, practice and feedback. Furthermore, effective conflict resolution skill training also included training on communication skill and specific conflict resolution strategies, e.g., focusing on similarities and engaging in constructive conflict resolution. The research also suggests that training effectiveness is moderated by individual differences and prior experiences.

4.2. Suggestions for future research

The current work was motivated by a need to lay the conceptual foundations for the body of knowledge in interpersonal skill training and highlight need areas to be addressed in future research. By meeting all research objectives (discussed above) the research successfully laid the conceptual foundations for both the broader interpersonal skill literature as well as the literature on the six specific skills: active listening, nonverbal communication, assertive communication, relationship building, negotiation, and conflict resolution. Generally speaking, two need areas emerged for future IPS research. First, there is the need to further contrast the effectiveness of both different training methods and training program variations using alternative training methods across the breadth of interpersonal skills. Second, much more research is needed examining training effectiveness beyond contrived testing situations to far transfer of interpersonal skill within real life situations.

Even though research suggests that behavioral modeling training (BMT) is the most effective IPS training program, little is known about the effectiveness of the BMT training program given variations in the extent and types of methods used, as well as, the length of cyclical time in learning required to achieve minimal and optimal learning and transfer thresholds. With the

advent of more realistic and capable intelligent tutoring systems and training simulations, little is known about the effectiveness of live role-play versus simulated role-play. Furthermore, the differential training effectiveness of BMT across the breadth of IPS is virtually unknown. Lastly, with the exception of homework exercises and assessments of actual workplace and/or real life performance indices, the relationships of different training programs and various cognitive, behavioral, and affective training outcomes within real(istic) far transfer situations needs to be explored in detail.

Finally, examining the results of the skill-specific surveys of experimental literature, several skill-specific need areas in addition to exploration of differences in training method effectiveness and far transfer for each skill were revealed.

- For active listening, no literature reviews or meta-analyses on active listening skill were identified in the literature searches; yet, the sampling of research showed that published experimental research on the topic has steadily increased over the past 5 decades. Given the lack of any reviews discovered and the increase in publication, active listening skill is likely a prime candidate for initial quantitative and qualitative synthesis of the literature.
- For nonverbal communication, a few nonverbal communication reviews and meta-analyses were identified. However, nonverbal communication skill is one of a few skills that seem to be a hot topic and there has been a great deal of experimental research done in the past two decades (both encoding and decoding).
- For assertive communication, there is a fairly large body of experimental research available, but publication has seemingly declined in recent years. While there have been some reviews and meta-analysis of the literature on assertive communication, the sample of studies suggests that they are outdated by at least two decades. The meta-analysis performed by Shatz in 1984 serves as a prototypical model of the type of assertiveness meta-analysis that is needed today. The survey of assertive communication literature suggests more than 40 studies have been published after 1984.
- For relationship building, no reviews or meta-analyses were found, but the literature survey indicates a spike in experimental relationship building research in the past decade. The lack of relevant studies could be an indication that either more research should be done on the higher level relationship building skill or that research should focus on the specific sub-skills, not on general ability. Further research into the relationship building skill should cautiously weigh that the skill category of “relationship building skill” may potentially be too high a level skill category for research and review; the sub-skills of “relationship building” should be considered as an alternative.
- For negotiation, two (somewhat recent) reviews and two meta-analyses were identified in the literature survey. In addition, there seems to be a surge in experimental research in the past decade. Results indicate that negotiation training research is also a hot topic, but very little synthesis has been performed within a specific training effectiveness framework.
- For conflict resolution, one review and no meta-analyses were discovered. Given the surge in experimental attention conflict resolution training has seen over the past decade, it may also be a prime candidate for quantitative and qualitative synthesis of the literature.

IPS training effectiveness research is an important real word topic given the potential trainability of IPS behaviors and both the broad benefit to an individual's well being and the specific professional and military organizational benefits. To facilitate future research in the interpersonal skills training research domain, the current reviews brought together a number of different literatures and provided an update to the current state of the science on interpersonal skill training. One way that this was accomplished was by identifying a number of specific research gaps in the training effectiveness literature for six interpersonal skills. However, one of the more important accomplishments towards that end was the synthesis of a broad conceptual scheme for understanding the IPS training effectiveness domain. This conceptual scheme included three primary components:

1. Identification and definition of 28 individual interpersonal skills and 4 high level skill groupings (i.e., interpersonal communication skills, relationship building skills, peer leadership skills, & social/behavioral agility skills).
2. Identification and definition of two general dimensions (instructional design elements and delivery methods) that aid in conceptualizing the breadth of the multi-method IPS training programs available (see Table 4).
3. Conceptual organization of the literature on IPS assessment and measurement by identifying the fundamental questions that both structure and differentiate the two areas of IPS research and evaluation (see Table 5).

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Appendix A: IPS Article Summary Template

Template for Summarizing Selected Research Articles:

Full APA Reference of Study:	
Interpersonal Definitions:	
What are the components/elements of IPS?	
How are IPS trained?	
Why are IPS important?	
How are IPS assessed? <p>The process of collecting data (relating to IPS) to describe or better understand an issue of IPS, typically testing (i.e., standardized testing, simulation, etc).</p>	
How are IPS measured? <p>The process of determining variable attributes of IPS data with standard units/scale and standard instrumentation, typically quantifying.</p>	
How are IPS evaluated? <p>The comparison of data to a standard for the purpose of judging worth or quality; that is, some process that is designed to provide information that will help make a judgment about a situation.</p>	
Data provided?	
Other Info:	
Key papers cited to follow up on:	

Appendix B: Overall Concept Matrix

Citation	IPS defined	What are the components/elements of IPS?	How are IPS trained?	Why are IPS important?	How is IPS assessed?	How is IPS measured?	How is IPS evaluated?	Empirical data for analysis?
Alge, B.J., Gresham, M.T., Heneman, R.L., Fox, J., McMasters, R. (2002)	x	x		x	x	x	x	x
Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., Vermeersch, D.A. (2009)		x		x	x	x	x	x
Arizaga, M.P., Bauman, S., Waldo, M., Castellanos, L.P. (2005)	x		x		x	x	x	x
Avergun, A., Bunch, K., Del Gaizo, E.R. (2000)			x	x				
Avkiran, N. (2000)	x	x			x		x	x
Bedwell, W.L., Fiore, S.M., Salas, E. (2012)	x	x		x	x	x		
Bordone, R.C. (2000)		x	x	x				
Bowden, T.B., Keenan, P., Knapp, D.J., & Heffner, T.S. (2004)		x		x	x	x		
Bowden, T.B., Laux, L., Keenan, P., & Knapp, D. (2003)	x	x			x	x		
Bradley, J., White, B.J., & Mennecke, B.F. (2003)	x		x	x		x		
Burnard, P., & Morrison, P. (2005)			x		x	x	x	x
Carpenter, T.D., & Wisecarver, M.M. (2004)	x	x		x				
Carpenter, T.D., Wisecarver, M.M., (2006)		x	x	x	x	x	x	
Carpenter, T.D., Wisecarver, M.M., Deagle, E.A. III, & Mendini, K.G. (2005)		x		x	x			
Chant, S., Jenkinson, T., Randle, J., & Russell, G. (2002)		x		x				
Cheraghi-Sohi, S., Bower, P. (2008)			x	x	x	x		
Cullen, M.J. (2005)			x		x	x		x
Doo, M.Y. (2005)	x	x	x	x	x	x	x	x
Doo, M.Y. (2006)	x	x	x	x	x	x	x	x
Duffy, F.D., Gordon, G.H., Whelan, G., Cole-Kelly, K., & Frankel, R. (2004)	x	x	x	x	x	x	x	
Dyche, L. (2007)		x	x	x	x	x		
Elliott, K.A., Erickson, M.D., Fowler, E.T., Giesecking, J.K., Weiss, M.P. (2006)	x	x	x	x				

Overall Concept Matrix (continued)

Citation	IPS defined	What are the components/elements of IPS?	How are IPS trained?	Why are IPS important?	How is IPS assessed?	How is IPS measured?	How is IPS evaluated?	Empirical data for analysis?
Gabor, T. Hajime, H., & Mamoru, T. (2006)				x	x	x	x	x
Gilmore, E.R., Fritsch, P.J. (2001)	x	x	x		x			
Greco, M., Brownlea, A., McGovern, J. (2001)			x	x	x	x	x	x
Green, C.M.T. (2010)	x	x		x				
Greene, J.O. & Burleson, B.R. (Eds.). (2003)	x	x	x	x	x	x		
Holsbrink-Engels, G.A. (2000)			x		x			
Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001)	x	x			x			
Hurst, Y.K., Prescott-Clements, L.E., Rennie, J.S. (2004)					x	x		
Jones, A. (2007)			x		x	x		
Kantrowitz, T. M. (2005)	x	x		x				
Kelley, C. A., & Bridges, C. (2005)		x		x				
Kimball, B. (2007)			x					
Klein, C., DeRouin, R. E., & Salas, E. (2006)	x	x	x	x		x	x	
Klein, C.R. (2009)	x	x	x	x		x		
Krishnaveni, R., Thamaraiselvi, R. (2008)	x	x		x	x			x
Lane, H.C., Core, M.G., Gomboc, D., Karnavat, A., & Rosenberg, M. (2007)			x		x			
Lee, S., Powell, J.V. (2006)	x	x	x	x		x	x	x
Lievens, F., & Sackett, P. R. (2011)	x	x	x		x			x
Lyons, P. (2008)			x		x	x	x	x
Maellaro, R. (2009)	x	x		x				
Messmer, M. (2001)			x	x				
Montgomery, W.H. III (2007)	x	x	x	x	x			

Overall Concept Matrix (continued)

Citation	IPS defined	What are the components/elements of IPS?	How are IPS trained?	Why are IPS important?	How is IPS assessed?	How is IPS measured?	How is IPS evaluated?	Empirical data for analysis?
O'Brien, J., & Murphy, D. (2003)			x	x	x			
O'Keefe, M. (2001)	x	x	x	x	x	x		
O'Sullivan, P., Chao, S., Russell, M., Levine, S., Fabiny, A. (2008)			x	x	x	x		
Pellack, L. (2003)	x		x	x	x			
Phelps, C.E. (2009)		x						
Quinn, P. (2001)		x	x	x	x	x	x	x
Roth, P., Bobko, P., McFarland, L., & Buster, M. (2008)	x	x			x			
Schottler, T.E., (2005)	x	x	x	x	x	x	x	
Sen, S. (2008)	x	x		x				
Simmons, M.E. (2000)	x	x		x				
Taylor, P.J., Russ-Eft, D.F., Chan, D.W.L. (2005)		x	x			x		
Tews, M.J., Tracey, J.B. (2008)		x	x		x	x	x	x
Tsai, M-T., Chen, C-C., & Chin, C-W. (2010)	x	x		x	x	x	x	x
Valant, L. (2008)			x					
Wheeler, P.A. (2005)		x	x	x	x			
Young, M. R., & Murphy, W. (2003)	x	x	x	x	x			
Young, R.G. (2000)		x	x		x	x	x	x
Yudkowsky, R. (2006)			x	x	x	x		x
Yudkowsky, R., Alseidi, A., Cintron, J. (2004)			x	x	x	x		x
Zbylut, M.L., Metcalf, K.A., McGowan, B., Beemer, M., Brunner, J.M., & Vowels, C.L. (2009)		x						
Zbylut, M.L., Ward, J.N. (2005)			x	x				

Appendix C: IPS Component Matrix

C.1 Interpersonal Communication Skills

Citation	Interpersonal Communication Skills							
	Active listening	Oral communication	Written communication	Assertive communication	Nonverbal communication	Informing	Information Gathering	Communication - General
Alge, B.J., Gresham, M.T., Heneman, R.L., Fox, J., McMasters, R. (2002)								
Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., Vermeersch, D.A. (2009)		x						
Avkiran, N. (2000)								
Bedwell, W.L., Fiore, S.M., Salas, E. (2012)								
Bordone, R.C. (2000)								
Bowden, T.B., Keenan, P., Knapp, D.J., & Heffner, T.S. (2004)		x	x					
Bowden, T.B., Laux, L., Keenan, P., & Knapp, D. (2003)	x	x	x		x			
Carpenter, T.D., & Wisecarver, M.M. (2004)						x	x	
Carpenter, T.D., Wisecarver, M.M., (2006)								
Carpenter, T.D., Wisecarver, M.M., Deagle, E.A. III, & Mardini, K.G. (2005)						x	x	
Chant, S., Jenkinson, T., Randle, J., & Russell, G. (2002)					x	x		x
Doo, M.Y. (2005)								x
Doo, M.Y. (2006)								
Duffy, F.D., Gordon, G.H., Whelan, G., Cole-Kelly, K., & Frankel, R. (2004)	x							
Dyche, L. (2007)		x			x			
Elliott, K.A., Erickson, M.D., Fowler, E.T., Gieseeking, J.K., Weiss, M.P. (2006)	x	x	x			x		
Gilmore, E.R., Fritsch, P.J. (2001)								
Green, C.M.T. (2010)	x	x	x					x
Greene, J.O. & Burleson, B.R. (Eds.). (2003)	x	x		x	x			x

C.1 Interpersonal Communication Skills (continued)

Citation	Interpersonal Communication Skills							
	Active listening	Oral communication	Written communication	Assertive communication	Nonverbal communication	Informing	Information Gathering	Communication - General
Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001)		x						
Kantrowitz, T. M. (2005)		x				x	x	x
Kelley, C. A., & Bridges, C. (2005)								x
Klein, C., DeRouin, R. E., & Salas, E. (2006)	x	x	x	x	x			
Klein, C.R. (2009)	x	x	x	x	x			
Krishnaveni, R., Thamaraiselvi, R. (2008)								
Lee, S., Powell, J.V. (2006)	x	x						
Maellaro, R. (2009)	x				x	x	x	
Montgomery, W.H. III (2007)	x					x		x
O'Keefe, M. (2001)		x			x			
Phelps, C.E. (2009)								
Quinn, P. (2001)	x							
Roth, P., Bobko, P., McFarland, L., & Buster, M. (2008)		x						
Sen, S. (2008)								
Simmons, M.E. (2000)		x	x		x			
Taylor, P.J., Russ-Eft, D.F., Chan, D.W.L. (2005)								x
Tews, M.J., Tracey, J.B. (2008)						x		
Tsai, M-T., Chen, C-C., & Chin, C-W. (2010)								x
Wheeler, P.A. (2005)								x
Young, M. R., & Murphy, W. (2003)	x	x	x				x	
Young, R.G. (2000)	x							
Zbylut, M.L., Metcalf, K.A., McGowan, B., Beemer, M., Brunner, J.M., & Vowels, C.L. (2009)		x			x			x

C.2 Relationship Building Skills

Citation	Relationship-building Skills							
	Team Cooperation and Coordination	Courtesy	Amicability	Trust	Dependability	Intercultural/ Interpersonal sensitivity	Service orientation	Conflict resolution and negotiation
Alge, B.J, Gresham, M.T., Heneman, R.L., Fox, J., McMasters, R. (2002)								
Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., Vermeersch, D.A. (2009)	x							
Avkiran, N. (2000)						x		
Bedwell, W.L., Fiore, S.M., Salas, E. (2012)								
Bordone, R.C. (2000)								x
Bowden, T.B., Keenan, P., Knapp, D.J., & Heffner, T.S. (2004)	x	x	x		x	x		x
Bowden, T.B., Laux, L., Keenan, P., & Knapp, D. (2003)	x	x	x		x	x		x
Carpenter, T.D., & Wisecarver, M.M. (2004)	x	x						
Carpenter, T.D., Wisecarver, M.M., (2006)								
Carpenter, T.D., Wisecarver, M.M., Deagle, E.A. III, & Mendini, K.G. (2005)	x	x						
Chant, S., Jenkinson, T., Randle, J., & Russell, G. (2002)								
Doo, M.Y. (2005)						x	x	
Doo, M.Y. (2006)	x						x	
Duffy, F.D., Gordon, G.H., Whelan, G., Cole-Kelly, K., & Frankel, R. (2004)		x				x		
Dyche, L. (2007)						x		
Elliott, K.A., Erickson, M.D., Fowler, E.T., Gieseeking, J.K., Weiss, M.P. (2006)	x							x
Gilmore, E.R., Fritsch, P.J. (2001)								x
Green, C.M.T. (2010)	x							x
Greene, J.O. & Burleson, B.R. (Eds.). (2003)	x		x	x				x
Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001)	x							

C.2 Relationship Building Skills (continued)

Citation	Relationship-building Skills							
	Team Cooperation and Coordination	Courtesy	Amicability	Trust	Dependability	Intercultural/ Interpersonal sensitivity	Service orientation	Conflict resolution and negotiation
Kantrowitz, T. M. (2005)	x	x	x			x		x
Kelley, C. A., & Bridges, C. (2005)								x
Klein, C., DeRouin, R. E., & Salas, E. (2006)	x			x		x	x	x
Klein, C.R. (2009)	x					x	x	x
Krishnaveni, R., Thamaraiselvi, R. (2008)								
Lee, S., Powell, J.V. (2006)						x		
Maellaro, R. (2009)	x							x
Montgomery, W.H. III (2007)				x	x			x
O'Keefe, M. (2001)						x		
Phelps, C.E. (2009)	x			x				x
Quinn, P. (2001)	x							
Roth, P., Bobko, P., McFarland, L., & Buster, M. (2008)	x							
Sen, S. (2008)	x					x		
Simmons, M.E. (2000)	x							x
Taylor, P.J., Russ-Eft, D.F., Chan, D.W.L. (2005)								
Tews, M.J., Tracey, J.B. (2008)								
Tsai, M-T., Chen, C-C., & Chin, C-W. (2010)	x							
Wheeler, P.A. (2005)								
Young, M. R., & Murphy, W. (2003)								
Young, R.G. (2000)	x							
Zbylut, M.L., Metcalf, K.A., McGowan, B., Beemer, M., Brunner, J.M., & Vowels, C.L. (2009)	x					x		

C.3 Peer Leadership Skills

Citation	Peer Leadership Skills						
	Conflict resolution and negotiation	Acts as a role model	Helping others	Task leadership	Rewarding others	Energizing others	Controlling
Alge, B.J., Gresham, M.T., Heneman, R.L., Fox, J., McMasters, R. (2002)							
Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., Vermeersch, D.A. (2009)							
Avkiran, N. (2000)			x			x	
Bedwell, W.L., Fiore, S.M., Salas, E. (2012)							
Bordone, R.C. (2000)	x						
Bowden, T.B., Keenan, P., Knapp, D.J., & Heffner, T.S. (2004)	x	x	x	x			
Bowden, T.B., Laux, L., Keenan, P., & Knapp, D. (2003)	x	x	x	x			
Carpenter, T.D., & Wisecarver, M.M. (2004)		x	x		x	x	x
Carpenter, T.D., Wisecarver, M.M., (2006)							
Carpenter, T.D., Wisecarver, M.M., Deagle, E.A. III, & Mendini, K.G. (2005)		x	x		x	x	x
Chant, S., Jenkinson, T., Randle, J., & Russell, G. (2002)							
Doo, M.Y. (2005)				x			
Doo, M.Y. (2006)			x				
Duffy, F.D., Gordon, G.H., Whelan, G., Cole-Kelly, K., & Frankel, R. (2004)							
Dyche, L. (2007)							
Elliott, K.A., Erickson, M.D., Fowler, E.T., Gieseeking, J.K., Weiss, M.P. (2006)	x		x	x	x	x	
Gilmore, E.R., Fritsch, P.J. (2001)	x		x	x			
Green, C.M.T. (2010)	x	x	x		x	x	
Greene, J.O. & Burleson, B.R. (Eds.). (2003)	x						
Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001)				x			

C.3 Peer Leadership Skills (continued)

Citation	Peer Leadership Skills						
	Conflict resolution and negotiation	Acts as a role model	Helping others	Task leadership	Rewarding others	Energizing others	Controlling
Kantrowitz, T. M. (2005)	x	x	x	x	x		
Kelley, C. A., & Bridges, C. (2005)	x						
Klein, C., DeRouin, R. E., & Salas, E. (2006)	x						
Klein, C.R. (2009)	x						
Krishnaveni, R., Thamaraiselvi, R. (2008)							
Lee, S., Powell, J.V. (2006)							
Maellaro, R. (2009)	x		x				
Montgomery, W.H. III (2007)	x		x	x		x	
O'Keefe, M. (2001)							
Phelps, C.E. (2009)	x	x					
Quinn, P. (2001)							
Roth, P., Bobko, P., McFarland, L., & Buster, M. (2008)				x			
Sen, S. (2008)							
Simmons, M.E. (2000)	x						
Taylor, P.J., Russ-Eft, D.F., Chan, D.W.L. (2005)							
Tews, M.J., Tracey, J.B. (2008)			x		x	x	
Tsai, M-T., Chen, C-C., & Chin, C-W. (2010)							
Wheeler, P.A. (2005)						x	
Young, M. R., & Murphy, W. (2003)							
Young, R.G. (2000)							
Zbylut, M.L., Metcalf, K.A., McGowan, B., Beemer, M., Brunner, J.M., & Vowels, C.L. (2009)			x	x			

C.4 Social/Behavioral Agility Skills

Citation	Social/Behavioral Agility Skills			
	Social Perceptiveness	Self-presentation	Social influence	Adaptability/Flexibility
Alge, B.J., Gresham, M.T., Heneman, R.L., Fox, J., McMasters, R. (2002)				
Anderson, T., Ogles, B.M., Patterson, C.L., Lambert, M.J., Vermeersch, D.A. (2009)			x	
Avkiran, N. (2000)				
Bedwell, W.L., Fiore, S.M., Salas, E. (2012)				
Bordone, R.C. (2000)				
Bowden, T.B., Keenan, P., Knapp, D.J., & Heffner, T.S. (2004)	x			x
Bowden, T.B., Laux, L., Keenan, P., & Knapp, D. (2003)	x			x
Carpenter, T.D., & Wisecarver, M.M. (2004)			x	x
Carpenter, T.D., Wisecarver, M.M., (2006)				
Carpenter, T.D., Wisecarver, M.M., Deagle, E.A. III, & Mendini, K.G. (2005)			x	x
Chant, S., Jenkinson, T., Randle, J., & Russell, G. (2002)				
Doo, M.Y. (2005)		x		
Doo, M.Y. (2006)				
Duffy, F.D., Gordon, G.H., Whelan, G., Cole-Kelly, K., & Frankel, R. (2004)				
Dyche, L. (2007)				x
Elliott, K.A., Erickson, M.D., Fowler, E.T., Giesecking, J.K., Weiss, M.P. (2006)			x	
Gilmore, E.R., Fritsch, P.J. (2001)				
Green, C.M.T. (2010)			x	
Greene, J.O. & Burleson, B.R. (Eds.). (2003)	x		x	x
Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001)			x	

C.4 Social/Behavioral Agility Skills (continued)

Citation	Social/Behavioral Agility Skills			
	Social Perceptiveness	Self-presentation	Social influence	Adaptability/Flexibility
Kantrowitz, T. M. (2005)	x	x	x	x
Kelley, C. A., & Bridges, C. (2005)				
Klein, C., DeRouin, R. E., & Salas, E. (2006)		x	x	
Klein, C.R. (2009)		x	x	
Krishnaveni, R., Thamaraiselvi, R. (2008)				
Lee, S., Powell, J.V. (2006)				
Maellaro, R. (2009)			x	
Montgomery, W.H. III (2007)			x	
O'Keefe, M. (2001)				
Phelps, C.E. (2009)	x		x	
Quinn, P. (2001)				
Roth, P., Bobko, P., McFarland, L., & Buster, M. (2008)			x	
Sen, S. (2008)	x	x		
Simmons, M.E. (2000)				
Taylor, P.J., Russ-Eft, D.F., Chan, D.W.L. (2005)				
Tews, M.J., Tracey, J.B. (2008)				
Tsai, M-T., Chen, C-C., & Chin, C-W. (2010)	x	x		
Wheeler, P.A. (2005)	x	x		
Young, M. R., & Murphy, W. (2003)			x	
Young, R.G. (2000)	x			
Zbylut, M.L., Metcalf, K.A., McGowan, B., Beemer, M., Brunner, J.M., & Vowels, C.L. (2009)	x	x	x	

Appendix D: Tables of Training Methods and Design Elements

Table D.1 Example 1 of a modeling training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:													
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:												x	
	Process Interventions w/:													
Informal Training Delivery Methods	Hybrid w/:													
	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.2 Example 2 of a modeling training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:			x		x								
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
Informal Training Delivery Methods	Hybrid w/:													
	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.3 Example of a role play training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:	x				x		x						x
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.4 Example of a homework assignment training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:													
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:							x						x
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.5 Example of a lecture training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:	x	x											
	Facilitated group discussion w/:													
	Computer/web based w/:	x	x											
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.6 Example of a lecture plus discussion training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:	x	x		x						x			
	Facilitated group discussion w/:	x	x		x						x			
	Computer/web based w/:	x	x		x						x			
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.7 Example of a process intervention training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:													
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:				x						x			
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Table D.8 Example of a BMT training method

Delivery Methods		Instructional Design Elements												
		Presenting instruction	Workbooks	Reflection activities	Small group discussions	Social simulation skills practice exercise -live	Simulated IPS practice exercise –computer simulation-based	Skills practice w/ feedback	Learner control (computer-based)	Practice drills	Interaction with other learners	Cases plus group discussion	Cases plus group discussion and design of interventions	Post training transfer support
Formal Training Delivery Methods	Classroom / workshop w/:	x				x		x			x	x		
	Facilitated group discussion w/:													
	Computer/web based w/:													
	Intelligent tutoring w/:													
	Computer simulation/game w/:													
	Videotape (only) w/:													
	Process Interventions w/:													
	Hybrid w/:													
Informal Training Delivery Methods	Reading (only) w/:													
	Self-taught – experiential w/:													
	One-on-one mentoring w/:													
	Using feedback from subordinates/clients, etc w/:													

Appendix E: Skill-Specific Summary Template

Template for Summarizing IPS:

Full APA Reference of Study:	
Discipline of source	
How is the IPS defined?	
What relevant information is reviewed in the literature?	
What relevant training effectiveness findings are reviewed in the literature?	
What type of IPS training is described?	
What delivery method(s) and instructional design elements are used?	
What type of IPS assessment is described?	
<p>If assessment described above,</p> <ul style="list-style-type: none"> - What type of IPS is being assessed (individual difference or competency)? - What is the purpose of the IPS assessment (identify candidates for IPS training, identify IPS to be trained, or identify acquisition of trained IPS)? - What method of IPS data collection is being used (Text-based, Oral interview, Computer-based simulation, Live action, Real life behavior)? 	
What elements of IPS are measured?	
<p>If measurement described above,</p> <ul style="list-style-type: none"> - What component of IPS is being measured (cognitive, behavioral, or affective)? - What is the purpose of the IPS measurement (selection, performance appraisal, or training support)? - What form of IPS response data collection is being collected (see attached)? 	
What additional relevant information is provided in the article?	

Template for Summarizing IPS: (continued)

Is quantitative data available? If so what kind? Are any statistics reported? If so what kind?	
If the study is a meta-analysis candidate, then when were study participants measured? - Posttest Only - Pretest AND Posttest	
If the study is a meta-analysis candidate, then what was the treatment group compared to? - Treatment Only - "Other training" comparison group - "No Training" Control Group	
If the paper presents training effectiveness research, what did the study report for findings regarding the effectiveness of IPS training?	
If the paper presents training effectiveness research, what, if any, research gaps or needs can be inferred from the findings?	
What, if any, research gaps or needs does the author state?	
Comments	